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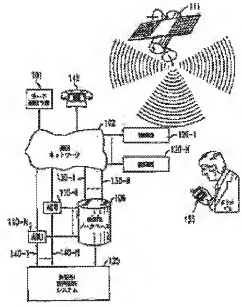
(54) ACKNOWLEDGING AND ALARMING SYSTEM FOR TRANSACTION

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a method and device for alarming to related concerned person concerning recently completed transaction through the use of a communication system and/or for obtaining permission from the related concerned person with respect to undecided transaction.
SOLUTION: The method is for automatically alarming a customer for whom transaction is being started and/or permitting the transaction based on the user's acknowledgement/approval with respect to the transaction. According to an execution example, a request for permitting the transaction is received, the request includes a customer identifier and whether to permit the transaction is decided based on it. When the decision is to permit transaction, it is communicated to the customer, the acknowledgement of the necessity of permitting transaction is returned from the user and received, and the transaction is permitted in response to the customers acknowledgement.



CLAIMS

[Claim(s)]
[Claim 1]In how to have automated for approving a transaction,
A method comprising:
A step which receives a demand for approving the aforementioned transaction which the aforementioned transaction is due to a customer identifier related with a customer, and contains the aforementioned customer identifier.
A step which answers the aforementioned demand and determines whether approve the aforementioned transaction based on the aforementioned customer identifier.
A step which communicates the aforementioned determination to the aforementioned customer when a step of the aforementioned determination determines that the aforementioned transaction should be approved.
A step which receives communication from the aforementioned customer who is checking that the aforementioned customer has agreed with approval of the aforementioned transaction.
A step which answers the aforementioned communication received from the aforementioned customer, and approves the aforementioned transaction.

[Claim 2]A method according to claim 1, wherein the aforementioned transaction includes a transaction of sale and the aforementioned customer identifier contains a credit card number.
[Claim 3]A method according to claim 1, wherein it includes that the aforementioned transaction performs a telephone call and the aforementioned customer identifier includes a number of a telephone call card.
[Claim 4]A method according to claim 1, wherein the aforementioned transaction includes a banking transaction and the aforementioned customer identifier includes a number of a banking card.
[Claim 5]A method according to claim 1, wherein the aforementioned customer identifier contains a personal identification number.
[Claim 6]A method according to claim 1, wherein the aforementioned step which communicates the aforementioned determination to the aforementioned customer contains a step which transmits a signal showing the aforementioned determination to a receiver for radio telecommunication.
[Claim 7]A method according to claim 6, wherein the aforementioned receiver for radio telecommunication includes a display and the aforementioned step which communicates the aforementioned determination to the aforementioned customer contains a step which communicates the aforementioned customer identifier to the aforementioned customer.
[Claim 8]A method according to claim 6, wherein the aforementioned receiver for radio telecommunication includes a display and the aforementioned step which communicates the aforementioned determination to the aforementioned customer contains a step which communicates the aforementioned donor's identity to the aforementioned customer.
[Claim 9]A method according to claim 6, wherein the aforementioned receiver for radio

telecommunication contains a pager.
[Claim 10]A method according to claim 6 which the aforementioned receiver for radio telecommunication contains a bidirectional pager, and is characterized by the aforementioned communication from the aforementioned customer who checks that the aforementioned customer under approval recognizes being transmitted by the aforementioned customer using the aforementioned bidirectional pager.
[Claim 11]In how to have automated for approving a transaction,
A method comprising:
A step which receives a demand containing the aforementioned customer identifier for the aforementioned transaction being due to a customer identifier related with a customer, and approving the aforementioned transaction.
A step which answers the aforementioned demand and determines whether approve the aforementioned transaction based on the aforementioned customer identifier.
A step which communicates the aforementioned determination to the aforementioned customer when a step of the aforementioned determination determines that the aforementioned transaction should be approved.
A step which determines whether communication which shows a thing for which the aforementioned transaction should be approved, and which do not come out was received by within a time [of given length] from the aforementioned customer.
A step which approves the aforementioned transaction when the aforementioned communication from the aforementioned customer is not received by within a time [of said given length].

[Claim 12]A method according to claim 11, wherein the aforementioned transaction includes a transaction of sale and the aforementioned customer identifier contains a credit card number.
[Claim 13]A method according to claim 11, wherein it includes that the aforementioned transaction performs a telephone call and the aforementioned customer identifier includes a number of a telephone call card.
[Claim 14]A method according to claim 11, wherein the aforementioned transaction includes a banking transaction and the aforementioned customer identifier includes a number of a banking card.
[Claim 15]A method according to claim 11, wherein the aforementioned customer identifier contains a personal identification number.
[Claim 16]A method according to claim 11, wherein the aforementioned step which communicates the aforementioned determination to the aforementioned customer contains a step which transmits a signal showing the aforementioned determination to a receiver for radio telecommunication.
[Claim 17]A method according to claim 16, wherein the aforementioned receiver for radio telecommunication includes a display and the aforementioned step which communicates the aforementioned determination to the aforementioned customer contains a step which communicates the aforementioned customer identifier to the aforementioned customer.

[Claim 18]A method according to claim 16, wherein the aforementioned receiver for radio telecommunication includes a display and the aforementioned step which communicates the aforementioned determination to the aforementioned customer contains a step which communicates the aforementioned donor's identity to the aforementioned customer.
[Claim 19]A method according to claim 16, wherein the aforementioned receiver for radio telecommunication contains a pager.
[Claim 20]A method comprising:
A step which communicates a recognition code for using when it is how to have automated for approving a transaction, the aforementioned transaction is due to a customer identifier related with a customer and the aforementioned transaction is performed to the aforementioned customer.
A step which receives a demand containing the aforementioned customer identifier and the aforementioned recognition code for approving the aforementioned transaction.
A step which determines whether approve the aforementioned transaction based on whether answer the aforementioned demand and the aforementioned recognition code with which a recognition code received [aforementioned] communicated to the aforementioned customer is matched based on the aforementioned customer identifier.
A step which approves the aforementioned transaction when a step of the aforementioned determination determines that the aforementioned transaction should be approved.

[Claim 21]A method according to claim 20, wherein the aforementioned step which communicates the aforementioned recognition code to the aforementioned customer contains a step which codes the aforementioned recognition code and provides high communication of the security.
[Claim 22]A method according to claim 20, wherein the aforementioned transaction includes a transaction of sale and the aforementioned customer identifier contains a credit card number.
[Claim 23]A method according to claim 20, wherein it includes that the aforementioned transaction performs a telephone call and the aforementioned customer identifier includes a number of a telephone call card.
[Claim 24]A method according to claim 20, wherein the aforementioned transaction includes a banking transaction and the aforementioned customer identifier includes a number of a banking card.
[Claim 25]A method according to claim 20, wherein the aforementioned customer identifier contains a personal identification number.
[Claim 26]A method according to claim 20, wherein the aforementioned step which communicates the aforementioned recognition code to the aforementioned customer contains a step which transmits a signal showing the aforementioned recognition code to a receiver for radio telecommunication with a display.
[Claim 27]A method according to claim 26, wherein the aforementioned receiver for radio telecommunication contains a pager.

[Claim 28]The aforementioned step which communicates to the aforementioned customer a recognition code for using, when performing the aforementioned transaction. A method according to claim 20 which answering having received communication from the aforementioned customer who shows that the aforementioned customer desires execution of the aforementioned transaction, and performing.
[Claim 29]A step which communicates the 2nd recognition code to the aforementioned customer after approval of the aforementioned transaction is included further, A method according to claim 20 which is for using it when said 2nd recognition code performs the 2nd transaction after the aforementioned transaction, and is characterized by differing from the aforementioned recognition code.
[Claim 30]In how to have automated for approving a transaction,
A method comprising:
A step which receives a demand containing the aforementioned customer identifier for the aforementioned transaction being due to a customer identifier related with a customer, and approving the aforementioned transaction.
A step which answers the aforementioned demand and determines whether approve the aforementioned transaction based on the aforementioned customer identifier.
A step which communicates a recognition code for using when a step of the aforementioned determination determines that the aforementioned transaction should be approved, and ending execution of the aforementioned transaction to the aforementioned customer.
A step which receives communication containing the aforementioned recognition code.
A step which answers matching the aforementioned recognition code with which a recognition code received [aforementioned] communicated to the aforementioned customer, and approves the aforementioned transaction.

[Claim 31]A method according to claim 30 that the aforementioned step which communicates the aforementioned recognition code to the aforementioned customer codes the aforementioned recognition code, and is characterized by providing high communication of security.
[Claim 32]A method according to claim 30, wherein the aforementioned transaction includes a transaction of sale and the aforementioned customer identifier contains a credit card number.
[Claim 33]A method according to claim 30, wherein it includes that the aforementioned transaction performs a telephone call and the aforementioned customer identifier includes a number of a telephone call card.
[Claim 34]A method according to claim 30, wherein the aforementioned transaction includes a banking transaction and the aforementioned customer identifier includes a number of a banking card.
[Claim 35]A method according to claim 30, wherein the aforementioned customer identifier contains a personal identification number.
[Claim 36]A method according to claim 30, wherein the aforementioned step which communicates the aforementioned recognition code to the aforementioned customer contains a

step which transmits a signal showing the aforementioned recognition code to a receiver for radio telecommunication.
[Claim 37]A method according to claim 36, wherein the aforementioned receiver for radio telecommunication contains a pager.
[Claim 38]In a system by which it automated for using when approving a transaction,
A system comprising:
A receiver which suited in order to receive a demand containing the aforementioned customer identifier for the aforementioned transaction being due to a customer identifier related with a customer, and approving the aforementioned transaction.
A means for answering the aforementioned demand and determining whether approve the aforementioned transaction based on the aforementioned customer identifier and.
A transmitter added in order to communicate the aforementioned determination to the aforementioned customer when a means for the aforementioned determination determined that the aforementioned transaction should be approved.
A receiver added in order to receive communication from the aforementioned customer who is checking what the aforementioned customer consents to to a transaction under aforementioned approval demand.
A means for answering the aforementioned communication received from the aforementioned customer, and approving the aforementioned transaction.

[Claim 39]In a system by which it automated for using when approving a transaction,
A system comprising:
A receiver which suited in order to receive a demand containing the aforementioned customer identifier for the aforementioned transaction being due to a customer identifier related with a customer, and approving the aforementioned transaction.
A means for answering the aforementioned demand and determining whether approve the aforementioned transaction based on the aforementioned customer identifier and.
A transmitter added in order to communicate the aforementioned determination to the aforementioned customer when a means for the aforementioned determination determined that the aforementioned transaction should be approved.
A timer added in order to determine whether communication which shows a thing for which the aforementioned transaction should be approved, and which do not come out was received from the aforementioned customer within time of given length.
A means for approving the aforementioned transaction, when the aforementioned communication from the aforementioned customer is not received within time of said given length.

[Claim 40]A system comprising:
It is the system by which it automated for using when approving a transaction, A receiver added in order to receive communication from the aforementioned customer who the aforementioned

transaction is due to a customer identifier related with a customer, and shows that the aforementioned customer wishes execution of the aforementioned transaction.
A transmitter added in order to communicate a recognition code for using when performing the aforementioned transaction to the aforementioned customer.
A receiver added in order to receive a demand containing the aforementioned customer identifier and the aforementioned recognition code for approving the aforementioned transaction.
A means for determining whether approve the aforementioned transaction based on whether answer the aforementioned demand and the aforementioned recognition code with which a recognition code received [aforementioned] communicated to the aforementioned customer is matched based on the aforementioned customer identifier.
A means for approving the aforementioned transaction, when a means for the aforementioned determination determines that the aforementioned transaction should be approved.

[Claim 41]In a system by which it automated for using when approving a transaction,
A system comprising:
A receiver which suited in order to receive a demand containing the aforementioned customer identifier for the aforementioned transaction being due to a customer identifier related with a customer, and approving the aforementioned transaction.
A means for answering the aforementioned demand and determining whether approve the aforementioned transaction based on the aforementioned customer identifier and.
A transmitter added in order to communicate a recognition code for using for completing execution of the aforementioned transaction when a means for the aforementioned determination determines that the aforementioned transaction should be approved to the aforementioned customer.
A receiver added in order to receive communication containing the aforementioned recognition code.
A means for answering a recognition code which matches the aforementioned recognition code which communicated to the aforementioned customer and which was received [aforementioned], and approving the aforementioned transaction.

[Claim 42]In how to process a transaction,
A method comprising:
A step which receives information related with a transaction started by representative of the person himself/herself.
A step which searches a profile based on the aforementioned information related with the aforementioned transaction.
A step which compares at least one copy of the aforementioned information to data contained in the aforementioned profile.
A step which answers the aforementioned comparison and of which said person himself/herself is notified about the aforementioned transaction.

[Claim 43]in order that a step of the aforementioned notice may require approval to a transaction. it is the above about a message -- a method according to claim 42 by which a step which transmits to the person himself/herself being included further.
[Claim 44]A method according to claim 43 by which a step which receives a recognition signal from said person himself/herself, and a step which answers reception of the aforementioned recognition signal and approves the aforementioned transaction being included further.
[Claim 45]A method according to claim 44, wherein a recognition signal from the person himself/herself is transmitted from a paging device which answered a result of comparison and received a notice.
[Claim 46]A method according to claim 43 by which a step which receives a disapprobatory signal from said person himself/herself, and a step which answers reception of said disapprobatory signal and repeals the aforementioned transaction being included further.
[Claim 47]A method according to claim 43 by which a step which repeals the aforementioned transaction being further included when the aforementioned need-for-approval message is answered and a signal is not received from said person himself/herself.
[Claim 48]A method according to claim 42, wherein a step of the aforementioned comparison contains further a step for determining whether a parameter contained in said 2nd subset of information is over a threshold expressed by the aforementioned data contained in the aforementioned profile.
[Claim 49]In a system for processing a transaction,
A system comprising:
A database which receives information related with a transaction started by representative of the person himself/herself, and memorizes a profile with said defined person himself/herself.
a) A processor in comparison with data which searches the aforementioned profile from the aforementioned database based on the aforementioned information related with the aforementioned transaction, and is contained in the aforementioned profile in at least 1 portion of the b aforementioned information.
A network with which the aforementioned comparison is answered and a notification signal is transmitted to said person himself/herself.

[Claim 50]The system according to claim 49, wherein the aforementioned notification signal contains a message which is demanding recognition of a transaction.
[Claim 51]The system according to claim 50 by which an end user device with which a recognition signal is transmitted to the aforementioned database by said person himself/herself, and a means to answer to reception of the aforementioned recognition signal in the aforementioned database in order to approve the aforementioned transaction being included further.
[Claim 52]a) The system according to claim 51 which answers a result of comparison, receives a notification signal and is characterized by including further a paging device which transmits a

recognition signal from the b person himself/herself.
[Claim 53]The system according to claim 50 by which an end user device which transmits a disapprobatory signal to the aforementioned database from said person himself/herself, and a means to answer to reception of said disapprobatory signal in the aforementioned database in order to repeal the aforementioned transaction being included further.
[Claim 54]The system according to claim 50 by which a means for repealing the aforementioned transaction when the aforementioned need-for-approval message is answered and a signal from said person himself/herself is not received being included further.
[Claim 55]It is characterized by including further a means for the aforementioned processor to determine whether a parameter contained in the 2nd subset of the aforementioned information is over a threshold expressed by the aforementioned data contained in the aforementioned profile, The system according to claim 49.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]this invention -- approval of a transaction, and the system of warning -- and [especially]. It is related with the method and equipment for obtaining approval from an interested party to an undecided transaction, in order to warn to an interested party about the transaction completed recently using the communications system.
[0002]
[Description of the Prior Art]The identification number of the credit card assigned to the customer of the credit card, For example, when joining financial service and settling purchase in a store, in various kinds of situations when purchasing by telephone, it is shown by mail or E-mail (E-mail) to the person from whom many differed. Many of people with an opportunity to access a customer's credit card number often have a case where a deceitful act is induced. However, the advantage using a credit card is quite large. One of the advantages of using a credit card is it not being necessary to walk around with cash or, and not writing a check. The purchase by a credit card is advantageous also to a retailer as compared with the payment according to a check for example. Regardless of when a customer transfers to the account of the credit card, it is because the purveyor of service of a credit card ensures timely payment to a retailer.
[0003]
[Problem to be solved by the invention]However, a credit card or a credit card number is stolen in many cases, and a credit card number is used without the safe mechanism for checking the customer's identity by a telephone top or mail in many cases.
[0004]There is a problem of the same security as the case of a credit card also in the number of a telephone call card. These numbers are taken out to voice, and are read, or are inputted through a touch-tone keypad in many cases, have the opportunity for others to record it (electronically or only seeing by the eye), in that case, and can use the number unjustly after that. Another cause of

an unauthorized use which often exists is a case where that the customer performed the purchase or the having telephoned are denied, after a customer uses a credit card or a telephone call card formally. Therefore, it may be insufficient just to manage access to the number of the credit card or a telephone call card. Even access to the high database of the security by a computer, It is another example of the transaction depending on a customer's identification information (namely, password) which is known by the other company through a lawful or illegal channel. and allows unjust access to the database.

[0005]In order to automate the process of warning and approval, the advantage of communication and progress in a computer system is not being used for the mechanism of the conventional technology over the processing related to such security. Almost all the techniques tried so far in order to cope with the problem of such security tend to make the complexity of a communications protocol increase substantially. For example, a customer can receive an additional question (it is expected that only the approved party concerned knows the answer to the question), Or (it is secret) it may be required that the information on the addition of a personal identification number (PIN) etc. should be provided as a part of each transaction. To be changed in order that such PIN may maintain security on a routine basis may be demanded. In order that a customer may make easy to use these kinds of services, for example, a credit card, and telephone call cards, a customer's responsibility is restricted and, on the other hand, it is becoming common to make responsibility of a purveyor of service (for example, a credit card company or a telecommunications company) increase. As for an unauthorized use, with it, not being detected until a periodical service report is published is common, and in the end which is a monthly bill issue cycle, after the unauthorized use is carried out also to a misfortune, understanding, after long time passes is common with it.

[0006]Besides the problem of the above-mentioned security, the ordinary financial transaction of a desirable class is related to those to whom the person himself/herself has lodged in the representative the power to start and end a routine transaction without [not knowing or] recognizing. However, as for the person himself/herself, when it is identified that it is [non-routine] irregular, it is common to hold the right for being warned about such a transaction or recognizing depending on the case. For example, approval can be required when it is over the threshold parameter (the person himself/herself can define it beforehand) of a certain kind in relation to the transaction.

[0007]The mechanism by the conventional technology for processing the transaction started by such representative, Since the advantage of the progress in the communication for automating the process of the warning and approval after all and a computer system is not used, the scope of such a transaction is restricted. For example, cardholders, such as a company (parents) which has given employees (young adult) the credit card or the deposits-and-savings cash-drawer card in order to pay the expense (individual) on work, He imposes the restriction of a certain kind on the use about the card by the holder of a card, and, usually is trying to prevent abuse and superfluous or unjust use. For example, there is upper limit about either of the number of times of the transaction which can be recognized to the sum total of an amount of money chargeable to a

commercial credit card as such restriction or the credit card number within the period set beforehand. To the card holder who is puzzled in it in the face of the urgent situation, these restrictions have a case where access to a credit will be refused also in irony, when a credit is the required. Clearly, this lodges power in an employee or a young adult, and is contrary to the purpose of things. However, since the owner of a card has financial responsibility ultimately to the expense charged to those credit cards, the surveillance of use of those credit cards by the owner of a card is required too. This problem is important especially when sensing resistance for the storekeeper who worries that legal qualification for minors to complete a card transaction may be lacked considering it as the means of the payment from minors, and receiving a credit card or a deposits-and-savings cash-drawer card. For this reason, another special problem of conventional technology is that the mechanism of the flexible restriction for restricting that the person himself/herself supervises and/or recognizes use of the card by the card holder to the transaction of the business which is not routine-like is missing.

[0008]

[Means for solving problem]As opposed to the customer (for example, the holder of an account or its person himself/herself) of each [problem / aforementioned], the person's customer identifier (for example, -- carrying out a credit / deposits-and-savings cash drawer / telephone call appearance -- the number of a card --) It cannot be reported that PIN, a password, etc. are being used in the transaction to the specific purpose promptly and efficiently, And since it could not answer to it in order that the customer might recognize or deny the use, generating as a result has been recognized. Then, how to have automated according to a certain explanatory working example of this invention for recognizing a transaction is provided. In it, a customer is notified about unsolved approval, and after that, only when a customer recognizes, the transaction answers it and is approved. According to other explanatory working examples, based on the profile which is specified by the person himself/herself and which was memorized beforehand, this invention, The method and system which the person himself/herself has attention automatically called to the transaction of representative starting consider that is atypical, or can be pressed for approval are provided.

[0009]The approval demand of a transaction is received according to an explanatory working example, The determination of whether to approve a transaction based on a customer's identifier should do the demand including a customer's identifier in it, When the decision is made so that the transaction may be approved, unsolved approval is notified to the customer --; -- recognition of saying [that the transaction should actually be approved] is returned by the customer, and; and its transaction answer approval of the customer, and are approved.

[0010]One method for the communication for receiving such recognition for approving from the determination and the customer for approving the transaction is explanatorily provided by the conventional bidirectional pager. For example, when a customer's identifier is used, a customer can always be told about the database of the computer by which the task to which a transaction is approved is imposed by a pager. The information on relation can be displayed on the alphanumeric character (or number) display of that pager together with this notice. The customer

can answer by recognizing or denying the unsolved approval then (going via a bidirectional pager).

[0011]According to one mode of this invention, the exception condition which carries out the trigger of the evocation of cautions to a customer or the process of approval is memorizable in the profile to which it was specified by the customer. This profile associates those exception conditions to individual communication addresses, such as a telephone number to which the pager number "500" of which that customer can be notified, or the prefix of "700" was attached. In the case of the transaction of the card of a credit / deposits-and-savings cash drawer, and a telephone call, an exception condition for example, When there is a demand to the credit amount of money (or number of times of a transaction) exceeding the threshold parameter beforehand imposed by the owner of the card to use of the card, Or it may generate by being against other conditions beforehand defined by the owner of the card to use of the card. According to the principle of this invention, the owner of a card by transmitting recognition / disapprobatory message to the publisher of a card as a part of verification process of a card, It can be chosen whether charge of the expense to the card number is approved / denied, or the warning message is received simply.

[0012]It was shown to the storekeeper by the minors who claim that a storekeeper is a substitute of parents or a guardian according to other modes of this invention, The approval of the parents or a guardian can be required from the transaction of a deposits-and-savings cash drawer / credit cards, such as a smart card in which the amount of money is memorized. in that case, a card number -- or -- instead, the profile of the parents or the guardian who identifies the communication address to the parents or guardian can be searched, using what becoming as a search key. The transaction is recognized only when an approval message is received from the parents or a guardian.

[0013]

[Mode for carrying out the invention]

Although the principle of <outline> this invention is applicable to many fields, the explanatory working example described in detail in this focuses on the transaction of purchase by the credit card or a deposits-and-savings cash-drawer card. In these working examples, he may be a customer of the publisher of a credit card or a deposits-and-savings cash-drawer card, Also when that is not right, a certain card holder is a credit card or a deposits-and-savings cash-drawer card (). Or it directs to charge the amount of money of the purchase directly to the account of charging purchase to the account of the credit card given using the credit card number, or the given deposits-and-savings cash-drawer card to a retailer (a product or the donor of service). The number of the credit card or a deposits-and-savings cash-drawer card serves as a customer's identification information to the credit card purveyor of service (for example, publisher of the credit card).

[0014]Drawing 1 shows the communications system arranged according to the explanatory working example of this invention of a certain kind, in order to realize the principle. The communications system of drawing 1 contains the communication network 102, the database 106

for verification, and the network 111 of the paging system. The communication network 102 contains the communication exchange of one which relays the information received from the card-to-tape machine 101 to the database 106 for verification and which is arranged like (going via the circuit 130-1 - 130-N), or a series by which interconnection was carried out. When saying in detail and a credit card is presented to a storekeeper, since [which pays and charges a frame] the holder of the credit card was related with the transaction, A storekeeper makes the credit card slide in the card-to-tape machine 101, for example, reads a credit card number in the magnetic stripe on the back of the credit card. The automatic dialing unit contained in the card-to-tape machine 101 dials the telephone number related with the database 106 of the publisher of the card, and the card number is verified. In particular, the card-to-tape machine 101 transmits the verification request message explanatorily shown in drawing 2 to the database 106 for verification.

[0015]Similarly, when a card holder wants to use deposits-and-savings cash-drawer cards, such as a card of an automatic money accounts machine (ATM), as a means of the payment for a commercial transaction, a storekeeper inputs a special code into the card-to-tape machine 101, and starts the process of warning and recognition. Then, the card-to-tape machine 101 reads the number of a deposits-and-savings cash-drawer card in the magnetic stripe in the rear face of the deposits-and-savings cash-drawer card, for example, before reminding a card holder of a secret code (for example, PIN). Next, the card-to-tape machine 101 transmits the verification request message shown in drawing 2 to the database 101 for verification.

[0016]The message shown in drawing 2 includes the card number 201, the amount of money 202 for a demand of a credit card, a storekeeper's code 203, and the verification demand 204. When the card number 201 is a number of a deposits-and-savings cash-drawer card, it also contains PIN inputted by the card holder. A storekeeper's code 203 is the field which identifies the enterprise type with which the message connected with the transaction is transmitted. The demanded credit amount of money 202 is usually inputted by the storekeeper, and after being read in the magnetic stripe which has the number 201 of a telephone call card in the rear face of the card, the storekeeper's code 203 is added with the card-to-tape machine 101. The verification demand field 204 memorizes the code inputted by the storekeeper, in order to receive the recognition from the party concerned approved in order to give the recognition over the transaction of a deposits-and-savings cash-drawer card. When card holders are minors, for example by requiring the recognition from minors' parents or guardian (namely, party concerned with authority), Not repealing is guaranteed by minors later on the antecedent basis that the publisher of a storekeeper and a deposits-and-savings cash-drawer card lacks the legal qualification for the minor causing such a transaction.

[0017]If a verification request message is received, the database 106 for verification will perform operation of a table look-up for the purpose of searching the profile related with the card number using the card number 201 as a search key. When the card is a smart card in which the value was memorized when card holders are minors and, the profile of drawing 3 can be searched using the information near the passphrase or it which was provided by the minor as a search key.

[0018]The database 106 for verification is the database facility by which central centralization of the processor control was carried out, and it is a repository of record or a profile to the number of all the credit / deposits-and-savings cash-drawer cards which were assigned by the card issuing person to the customer. The database 106 for verification is designed in order to approve the transaction charged to the card number memorized in it. Such approval can be performed based on the parameter of the beforehand defined lot contained in the profile related with the card number. When the searched profile does not include the demand for warning or recognition, verification of the card number can be performed by the conventional method. When the profile may be demanding communication with one or the party concerned with a non-call beyond it, The database 106 for verification dials the telephone number searched from the profile related with the card number using the automatic dialing unit (ADU) 110-1 - 110N.

[0019]The table relevant to the change and recognition of a threshold parameter over a credit card number is shown in drawing 3. Each record in the table of drawing 3 is a profile to a credit card number used in order to determine the method by which the transaction charged to the credit card number is processed. the table of drawing 3 -- field 301; of a card holder's name -- field 302; of a card number -- the flags 303 and 304 of warning and approval being included, respectively, and, The trigger group of the field; the threshold field 310 of threshold field 309; of a communication address field 307; no answer credit and a no answer transaction is included. The field 301 of a card holder's name stores a card holder's name related with the specific card number. The field of a card holder's name includes the card holder's family name and the name (as [show / to the 1st and 3rd records]), or the card holder's (as [show / to the 2nd and 4th records]) name (or nickname). The credit card number 302 is used as a search key in the aforementioned table-look-up operation, and searches the profile related with the card number. It is shown that the field 303 of a warning flag should communicate to the owner of a card. However, it is generated only under some conditions. Such communication is needed, when the beforehand defined condition of a certain kind over use of the card may be broken by processing of the transaction or a threshold parameter may exceed for example. The field 304 of an approval flag warns of the transaction of the credit card which breaks the conditions set up beforehand being approved by the owner of a card as a part of card verification process to the publisher of a card. These conditions set up beforehand are conditions which are beforehand chosen by the owner of a card or are imposed by the publisher of a card. The trigger group of the field shown in drawing 3 shows explanatorily various kinds of parameters which will be notified to the owner of a card, when a parameter exceeds the threshold as which a certain kind was determined beforehand. The "condition" field 305 shows limitations with the owner of the card beforehand selected to use of a credit card. For example, it is shown that I want a cardholder to warn of the 1st record when a cardholder uses many amounts of money from 100 (100) dollars to the credit card number. The 3rd record shows making the owner of a card like to recognize the transaction of more credit cards than 300 dols. The owner of the credit card number related with the 3rd record shows that I want you to warn when the card is used at the setting-out place of the business related with a specific storekeeper's code in contrast with this. The publisher of a card

assigns a storekeeper code which is different to the setting-out place of the business of Bar, a hotel, a liquor shop, etc., respectively, and the transaction of the credit card in those setting-out places enables it to identify him easily by it.

[0020]As other limitations which the owner of a card can impose, there is the "maximum times of transaction" field 306, for example. This field defines the upper limit about the number of times of a transaction chargeable to a credit card number within the period set beforehand. For example, the 2nd record shows that it is recognized by the owner of the card, when three credit card transactions or more are processed to the credit card number within 24 hours. Such conditions may be effective in, for example, detecting the unauthorized use of the stolen credit card. When the threshold of the number of times of a transaction is used as a parameter for processing the transaction of a credit card, whenever a credit card transaction is processed, the transaction counter field 307 is incremented only 1. The transaction counter field 307 is reset by "0" after the period (for example, 24 hours) set beforehand passes. although many other limitations in the usual technology may be included by the owner of a card, or the publisher of a card into the profile of drawing 3, in order to explain simply, in drawing 3, only the restriction /of the number of times or restriction of the necessity for approval is shown.

[0021]When the owner of a card is notified of the credit card transaction being against conditions, the address or telephone number of an E-mail which can be sent to the cardholder using the field 308 of a communication address can always be identified. As for the field of this communication address, it is preferred to store the page number related with the communication carrier which provides paging service in the nationwide base for connecting. For example, it is a case of the owner of the card related with the 1st and 4th records. Like the cardholder instead related with the 2nd and 3rd records shown in drawing 3, the individual telephone number to which the prefix number of "500" or "700" was attached, for example can be used as a connection number to a cardholder. The address of an E-mail can be used as other alternative examples. The address to which it can send the usual E-mail in various kinds of explanatory working examples, Or the electronic address used for electronic signaling of other forms, For example, it can be considered as either of the addresses to the direct message or the interactive electronic bidirectional communication mechanism (for example, a "chat" or a program of a "talk") which communicates to the computer screen of the user who logs on.

[0022]In the profile of drawing 3, the threshold field 309 of a no answer credit and the threshold field 310 of the no answer transaction are also included. Those fields identify the maximum amount of money of the credit which can be recognized when the owner of a card cannot be contacted with the communications system of drawing 1, and the maximum times of a transaction permitted, respectively. When the owner of a card cannot be contacted and you do not want to give approval of a transaction, those fields are set as 0.

[0023]When the cost related with the commercial transaction is charged not to a credit card but to a deposits-and-savings cash-drawer card, only the field 301 of a cardholder's name, the field 302 of a card number, and especially the field 308 of a communication address have relation. It is because the transaction of the business is not completed when an approval demand is started

by the storekeeper and the owner of the deposits-and-savings cash-drawer card cannot be contacted.

[0024]When a transaction request message as returned to drawing 1 and shown in drawing 2 is received by the database 106 for verification, the latter. a) the information included in the message, and b -- using the searched profile which is related with the card number in the message. It is determined [whether at least one of the conditions beforehand imposed by the cardholder was broken, and] how it is (or was the threshold which the owner of the card defined beforehand exceeded?). When it is against conditions, the database 106 for verification formats the approval demand /which fetches the communication address of the owner of a credit card, and other arbitrary suitable information, and is transmitted to the owner of a card, or a warning message. One of such the messages is shown in drawing 4. This shows the field 403 as which one entry in the table shown the field 401 of a card holder's name, the field 402 of a display, and in drawing 5 is filled in. The name included in the profile searched from the database 106 for verification is written down in the field of a card holder's name. The field 402 is a display field which always includes two words "credit card." One of the entries in the table of drawing 5 is entered in the field 403.

[0025]The table of drawing 5 shows the three separate entries 501, 502, and 503 showing the section where three different messages differ. Each entry mainly comprises specific conditions which violation generated or display information filled in based on the exceeded specific threshold, and the one field. For example, if the amount of money for a demand of the credit to the transaction is over the limit of charge with the beforehand selected owner of the card, a difference with the amount of money of the credit required as the greatest charge amount will be written down in the field 505. If similarly the maximum times of the transaction per day which the cardholder had chosen beforehand by verification of the card number to a transaction will be exceeded, the contents of the counter field of the transaction will be moved to the field 506. If it is going to charge the amount disbursed relevant to the purchase of the item from the setting-out place of the business which similarly is related with the code of the storekeeper by whom the holder of the card was forbidden to a credit card number, The code is changed into one of the entries of the type of the setting-out place shown in the table of drawing 6. The table correlates each storekeeper's code with the setting-out place of business specific type. For example, the virtual storekeeper code 1234 is related with the store of a liquor shop, and, on the other hand, the map of the hypothetical storekeeper code 4567 is carried out to a hotel and a motel. Thus, once the map of the storekeeper code is carried out to the entry of the type of a commercial setting-out place, the entry will be simply copied to the field 507 of drawing 5.

[0026]By entering one of the entries in drawing 5 in the field 403 of drawing 4, the perfect message for the transmission to the cardholder is created. Then, the database 106 for verification searches the communication address in a profile, and sends the message shown in drawing 4 via the idle automatic dialing unit chosen from ADU110-1 - ADU110-N to a cardholder. The latter is arranged so that the bridge of those calls may be carried out to other communication devices, when the feedback signal from b cardholder who starts the call of a telephone by dialing the

telephone number received from the database 106 for a verification is detected. ADU 110-1 - 110-N is designed to end the call when a feedback signal is not received after the period set beforehand.

[0027]A communication address "500" or "700" prefix numbers. (For example, it is shown in the 3rd record of drawing 3) etc., when it is an individual telephone number, The database 106 sends a cardholder's communication address to ADU in an idle state, after transmitting the message shown in drawing 4 to the interactive audio response system (IVRS) 125. When the number dialed from ADU 110-1 is received. the communication network 102 is changed into the telephone number of the plain old telephone service (POTS) which can connect "500" or a "700" prefix telephone number to the cardholder, for example. If ADU 110-1 detects the feedback signal from a cardholder, The bridge of it is carried out to the interactive audio response system (IVRS) 125 which delivers the message of drawing 4 in the form of a sound to the cardholder in which the call is in the place of the set 145 of a telephone via "the wiring 140." If it says in detail, IVRS125 executes a command of the synthetic program from the text currently designed to use an ASCII input like [one] the message shown in drawing 4 to a sound, will carry out [sound / of machine composition] voice expression of "read-aloud" of the ASCII input, and will generate it. It is arranged so that a certain input of whether IVRS125 recognizes a specific transaction or to deny may be given and the owner of a card may be reminded. For example, the owner of a card can urge so that "2" may be inputted on dial putt, when inputting "1" on the dial pad of a telephone for recognizing a transaction or not accepting the transaction. It is the means for answering the touch-tone command from a call person which is contained in [one more] IVRS 125. Especially IVRS 125 is changed into the format which can read the number (DTMF) signal of dual tone multifrequencies received from the owner of the card by machines, such as ASCII which can be recognized with the database 106 for verification. IVRS 125 contains instead the word recognition unit arranged so that the word recorded on digital one like the message in drawing 5 may be outputted, A cardholder is reminded of the specific information changed into the ASCII form for delivering to the database 106 for verification. In order that the individual who has recognized the transaction may guarantee that he is not a swindler but an owner of the card, IVRS 125 may contain the speaker recognition unit which stores the template of the digitized voice message by which the cardholder was recorded beforehand, It is compared with the arbitrary inputs received from the non-call side, and the individual who is going to recognize the transaction proves that he is a "true" cardholder.

[0028]When a communication address is a telephone number of a pager, one of ADU 110-1 - 110-N dials the telephone number of the pager, The call to the telephone number of the pager is started for the purpose of delivering one of the messages of drawing 4, to the cardholder's pager device 135. The call is forwarded on the demodulator 120-1 - the communication network 102 using one of 120-N, For example, in order to deliver to the paging-system network which may be a nationwide paging service network of a satellite base, the received message is changed into a specific signaling format. Instead, the paging-system network 111 may be a Personal Communication Service (PCS) network or a cellular communication network. The paging-

system network 111 contains the base station (not shown in a figure) which receives the dialed number together with the message of drawing 5. Next the base station identifies the specific frequency related with the telephone number of the pager, and in order to deliver to the pager 135, it codes the received message as a series of pulses expressed by the subcarrier modulated on the frequency. The latter changes the pulse into a series of bytes showing the message of drawing 5. Then, the pager 135 generates a loud beep sound and the owner of a card is told about the message having entered. The pager 135 may be a pager of the oscillatory type of which it warns calmly to the owner of the card of the input messsage with the vibration signal which answers reception of a message and is generated instead.

[0029]When the coming message is an alarm signal from the database 106 for verification, the pager 135 may be a paging device which can use the arbitrary business provided with the small screen for receiving the message of drawing 4. However, when the response of recognition/denial is required by the database 106 for verification, As for the pager 106, it may be advantageous that it is a bidirectional paging device like the device which can be obtained from Mobile Telecommunications Technology Inc. in Jackson in Mississippi. In that case, the owner of a card transmits the message of recognition/denial by inputting the beforehand defined code into the bidirectional pager. The beforehand defined code is transmitted to the database 106 for verification via the paging-system network 111 next. The beforehand defined code is received by one of the demodulator 120-1 which restores to the signal related with the received code - 120-N in order to show to the database for verification. The pager 135 may be a pager of one way instead. In this case, when the response of recognition/denial is required by the database for verification, the owner of a card can communicate the message of recognition/denial to the database 106 for verification by other means like use of the telephone of a conventional type.

[0030]In order that <explanatory working example which is the 1> drawing 7 may show the flow chart according to the explanatory working example of this invention of a certain kind and may receive the recognition from the owner of a credit card, Or about the transaction of the credit card started by the cardholder, in order to give the owner of a credit card warning, the outline of the programmed command which is executed by the element from which the communications system of drawing 1 differs is shown. The process shown in drawing 7 is started in Step 701, when the database 106 for verification receives the verification demand to a credit card number. As mentioned above, the demand for recognition may be received in the form of a data message as shown in drawing 2. If a credit card number is received, the database 106 for verification tends to search the profile to the credit card number as a search key using the received credit card number. When there is no profile to a credit card number into the database for verification so that it may be determined in Step 702, The database for verification returns the message of "the transaction which is not approved" to the card-to-tape machine 101 via the communication network 102. When the database 106 for verification is able to detect the profile to the card number, the profile is analyzed in Step 704 and the type of the demanded credit amount of money or the transaction for example, It determines whether carry out the trigger of the warning or the demand to a recognizing condition. When the trigger of such conditions is not carried out,

the database 106 for verification advances a verification process by the usual method. When that is not right, in Step 706, it is confirmed whether when the cardholder meets with the conditions defined beforehand, it is only warned of the database 106 for verification. When that is right, the database 106 for verification searches the cardholder's communication address from the profile, and it is transmitted as the warning message is shown in Step 707 to it. Then, the database 106 for verification advances a verification process by the usual method.

[0031]When the profile searched by the database 106 for verification shows that the owner of the card should recognize the transaction (it needs although demanded by the card holder) of the credit card, The database 106 for verification formulates the demand to the recognition message for transmitting to a cardholder as shown in Step 708 (using the suitable entry in drawing 4 and drawing 5). As explained above, the demand to a recognition message can be delivered in the form of the call of a telephone, or a pager message. The database for verification waits for the response from a cardholder after transmission of a message. In [if it gets to know that a response did not come on the contrary after the time when the database for verification was beforehand defined in Step 709 passes] Step 711 the database 106 for verification, It is evaluated whether the amount of money of the demanded credit is over the threshold of a no answer credit. When the owner of the credit card cannot be contacted depending on the communications system of drawing 1, the threshold of a no answer credit, as explained in front, It is the field in the profile to a card number which is recording the highest amount of money of the credit which can be recognized to the transaction of a credit card. When the amount of money of the demanded credit is over the threshold of a no answer credit so that it may be determined in Step 711, as for the database for verification, a "transaction which is not approved" message is returned to the card-to-tape machine 101. When the amount of money of the demanded credit is not over the threshold of a no answer credit, the contents of the field of the transaction counter in that profile are compared to the threshold of a no answer transaction, and it is determined whether it was over this threshold. When having exceeded, the database 106 for verification returns an invalid card message to the card-to-tape machine 101 as shown in Step 705. When it is not over all thresholds of no answer, the database 106 for verification ends a verification process by the usual method as shown in Step 703.

[0032]If the response from a cardholder is received to within a time [which was defined beforehand] so that the database 106 for verification may be determined in Step 709, the database 106 for verification will evaluate whether the response shows recognition of the transaction by a cardholder. When that is right, the database for verification ends a verification process by the usual method as shown in Step 705. As an option, it may be required that a card holder should provide the password cord which matches the same code contained in the response received from the cardholder before the transaction is approved. When a disapprobatory response is received from a cardholder, the database 106 "transaction which is not approved" message for verification is returned to the card-to-tape machine 101.

[0033]Drawing 8 is a flow chart which shows the command executed by the element of the explanatory communications system of drawing 1, in order to check the transaction of a deposits-

and-savings cash-drawer card according to the 1st explanatory working example of this invention. The process shown in drawing 8 is started in Step 801, when the number and password of a deposits-and-savings cash-drawer card are entered for the database 106 for verification by minors' card holder. In Step 802, the database 106 for verification publishes an inquiry on its own memory storage, in order to know whether a profile can be searched to the received card number. When a profile is not found. the database 106 for verification transmits a "transaction which is not approved" message to the card-to-tape machine 101 as shown in Step 803. If the profile to the card number is searched, the database 106 for verification will create a message using one of the entries of drawing 4, in order to transmit to the owner of the card. Then, it is got to know whether the database 106 for verification waited only for the time of the beforehand defined length, and the response was received from the owner of the card. When the time of the beforehand defined length passes before the response came on the contrary from the cardholder, the database 106 for verification returns a "transaction which is not approved" message to the card-to-tape machine 101 as shown in Step 803. If the response which shows the approval of the cardholder about the transaction is received from a cardholder so that it may be determined in Step 806, the database 106 for verification will advance the process for verification by the usual method as shown in Step 807. When the owner of a card transmits the message which does not recognize the transaction of the card for deposits-and-savings cash drawers, the database 106 for verification transmits a "transaction which is not approved" message to the card issuing person 101 as shown in Step 803.

[0034]Approval of a transaction needs to be recognized by the two or more parties concerned in other explanatory working examples of this invention. For example, the amount of charge money is an account of a company, and when the amount of money of the charge is over a certain threshold defined beforehand, it may be required that the two approved parties concerned (for example, executive of a company) should recognize the transaction. The check of the company where this exceeds a certain kind of amount of money (for example, 1,000 dols), for example resembles the ordinary conditions of not being effective, if there is no approved signature of two persons. When the transaction is related to the expense of the medication in a hospital similarly (refer to following), it may be required that both the patient's doctors and pharmacists of a hospital should recognize the therapy. It is corrected in order to know whether all the parties concerned required in order that Step 806 of drawing 8 may recognize the transaction in these cases performed the recognition.

[0035]<Explanatory working example which is the 2> drawing 9 shows the flow chart of the purchase transaction of the credit card which can apply advantageously the explanatory working example of this invention of a certain kind. The transaction is started by the card holder (namely, customer) who directs to charge purchase to the amount of money of the given credit card to a retailer (Step 11). As for this command, it is common to take the form where a credit card or a credit card number is shown to a retailer. This transaction may be generated in real time in the state where there are that customer and retailer together, while the customer is waiting. In this case, it is clearly important that that approval process is completed timely. It is because the

related party concerned can progress to other actions after waiting for the approval. (For example, the retailer may be waiting in order to hand an article to a customer or to provide service.) It follows and, as for affirmation or denial of approval by the communication and the customer to a customer, it is desirable to be carried out as promptly as possible. It is preferred to this type of the principle of this invention of application to use a bidirectional pager for this Reason.

[0036]In alternative application, a customer is the person himself/herself itself or may have pointed to the retailer (or a retailer's representative) via a certain communication mechanism (for example, a telephone, mail, a facsimile, or an E-mail) at the time before the start of the transaction. Such directions may cover a series of purchase generated over the instant momentary purchase, a future purchase (for example, when an article or service cannot immediately be used), or a fixed period. In these cases at which the customer and the retailer are not present, before the party concerned progresses to other actions, usually there is almost no necessity that the approval is completed. That is, the process of the approval may be allowed to be ended over comparatively long time, such as several hours or a day, in these cases. Therefore, in these cases, the communication mechanism which is not real-time can be used out of else [, such as physical mail,] in the usual telephone, E-mail, or a certain situation.

[0037]Also in which case, a retailer's ordinary response to such directions, A specific customer (with a credit card number) it identifies -- having -- it is telling the transaction processing center (or network of such a center) related with the purveyor of service of a credit card about wishing to purchase for the article of a specific price, or service. Thus, a retailer demands the approval to the charge from a transaction processing center (Step 12). This demand is usually started by making that credit card slide into the automated card-to-tape machine (it is (like the card-to-tape machine 101 of drawing 1)). A card-to-tape machine reads the magnetic stripe on the credit card, dials it to a transaction processing center, transmits the information on relation, and receives an authorization code or disapprobatory either in the response from there. The information transmitted to a transaction processing center usually A credit card number, The identification code (for example, respectively the card number 201 in drawing 2, the demanded credit amount of money 202, and a storekeeper's code 203) of the amount of money of performed purchase and the retailer's store is included. Next, a retailer waits for the approval from the transaction processing center in which what the charge is recognized for by the purveyor of service of a credit card (that is, guaranteed) is shown. As for this approval, it is common to be sent to a retailer in the form of the authorization code which identifies that transaction, and it can use in order to compare that that approval process followed the retailer appropriately by it. On the other hand, one of the disapprobatory ordinary Reasons is that the balance of the customer's account exceeded the limit of the credit which is related with the customer's account and which was defined beforehand (or thing for which it will be exceeded when given purchase is approved). It is a case where receipt (or explicit disapprobatory receipt) of suitable recognition is missing by the customer by whom another disapprobatory Reason is charged by the account according to the explanatory working example of this invention of a certain kind.

[0038]In a transaction processing center, the process of approval, It performs automatically by the system of the computer base which especially contains in the inside the database (for example, database 106 for verification of drawing 1) include the account information to the member of each credit card (Step 13). That is, determination of whether such a system approves the transaction or to deny is performed automatically, and a help's intervention is usually unnecessary in the transaction processing center. As the transaction is ordinarily shown by by appearing in the form of an authorization code on the display of a retailer's card-to-tape machine. When approved (determination 14), approval that a retailer accepts charge of as opposed to the purchase in the publisher of a credit card by it is obtained. Therefore, the charge is accepted and the transaction is ended (Step 15). On the other hand, when the transaction is denied by the transaction processing center (shown by when a denial code usually appears on the display of a card-to-tape machine), a retailer refuses the charge and the transaction is ended (Step 16).
[0039]Drawing 10 shows the flow chart of the automated approval process which can be used in order to carry out Step 13 of the process of drawing 9 according to the 2nd explanatory working example of this invention. The process of drawing 10 answers each demand by which it was received for approval of a transaction, and it is performed as shown to the figure by the computer systems in a transaction processing center. the received approval demand (it is usually like the card-to-tape machine 101 of drawing 1 --) it transmits from the automated card-to-tape machine at a retailer's place -- having -- a customer's identifier (namely, credit card number) is included especially -- and -- for example, the identification code of the amount of money of shown purchase and the retailer's store can also be included (Step 20). Based on a customer's identifier, a database (it is (like the database 106 for verification of drawing 1)) receives an inquiry, in order to know whether the transaction should be approved (Steps 21 and 22). For example, the database can include the limit information on a credit which shows that it is not allowed to exceed the limit of the credit in which the balance of an account and the balance of the customer's account were given. In such a case, it is determined that the system should not approve the transaction when the sum total of the balance of the account and the amount of money of purchase which should be approved is over the limit of the credit. It is invalid or it is clear that the credit card's (things are understood) stolen it must not be approved.
[0040]When it is determined from analysis of Step 22 that the purchase must not be approved for some Reasons (determination 23), a system formats a denial code (Step 24). On the other hand, when there is no base for denying the transaction, a system makes profitably like approval (it is provisional) recognized by the customer according to the principle of this invention. Especially, and according to the 2nd explanatory working example, the system calls the customer automatically (using the pager 135 of drawing 1), and supplies the pertinent information about the purchase (Step 25). For example, the transaction which a system supplies a retailer's identity /or the amount of money of the purchase to a customer, and is asked for approval is what the person is actually performing now, Or it enables it to check more correctly that the transaction tends to be performed by the representative and the person himself/herself (namely, customer) recognizes about it instead. The customer's pager number (namely, telephone number used in

order to communicate with the pager) can be related with the customer's account as it can store, for example in a database and is shown in drawing 3.

[0041]When the customer is called, the system of the 2nd explanatory working example waits for the recognition from a customer provided together with the customer's bidirectional pager being used (Step 26). When a customer answers by suitable recognition (determination 27), a system generates, formats and memorizes the authorization code which enables it to end the transaction. On the other hand, when a customer does not recognize the transaction, a system formats a denial code (Step 24). (for example, when the response from a customer is not received within the time set beforehand) After either a denial code or an authorization code is formatted, it is sent to the retailer (namely, card-to-tape machine 101 of drawing 1) who submitted the approval demand from the first (Step 29).

[0042]<Explanatory working example which is the 3> drawing 11 shows the flow chart of the automated approval process which can be used to Step 13 of implementation in the process of drawing 1 according to the 3rd explanatory working example of this invention. As shown in this figure, the explanatory process of drawing 11 is the same as the explanatory process shown in drawing 10 except the determination 27 which determines whether recognition was received from the customer being replaced by the determination 30 which determines whether denial was received from the customer. By receiving either the recognition from a customer, or denial, other working examples of this invention can combine what is shown in drawing 10 and drawing 11. In such a case, a default (namely, timeout) standard can be made into either of the assumed denial which was recognized or assumed.

[0043]<Explanatory working example which is the 4> drawing 12 shows the flow chart of the approval process which can be used since Step 13 of the process of drawing 9 is implemented according to the 4th explanatory working example of this invention. This 4th working example can be advantageously adopted, when the customer has only the pager (differing from both directions) of one way. This is because the approval of the customer who should communicate is indirectly performed through a retailer. If it says in detail, the explanatory process of drawing 12 is [that it is under / of the mechanism which the approval of a customer is required and is received / except] the same as the case of the explanatory working example of drawing 10 and drawing 11.

[0044]If the determination 23 determines that that transaction was approved especially, the explanatory system of this 4th working example generates the code for recognition, and provides that code to a customer by its own pager (one way) (Steps 41 and 42). For example, the recognition code supplied is generated at random, in order to prevent from predicting. The recognition (and for example, to person unjustly using credit card number of customer who does not own that customer's pager, not told) code it is told by this method as for that recognition code that only a customer is can be used in order to recognize that approval indirectly. For example, when the customer is doing some shopping by facing each other in a store, the customer can provide the recognition code currently supplied by the transaction processing center to the retailer. A retailer returns the recognition code to a transaction processing center further. The

step of this latter can be performed using the automated card-to-tape machine which has already communicated with the transaction processing center, for example.

[0045]therefore, after the explanatory process of drawing 12 supplies a recognition code to a customer, Step 43 waits for the input of the response containing the recognition code (return) (for example, -- from the automated card-to-tape machine). Next, the recognition code supplied to the given transaction is compared with the received recognition code (determination 44), and the customer checks actually providing suitable recognition of the approval. When the recognition code in which the supplied recognition code was received is matched, a system approves the transaction (Steps 28 and 29). The transaction is denied, when they do not match, or when a system does not receive the recognition code of a response after the passage of time of the length defined beforehand (Steps 24 and 29).

[0046]<Explanatory working example which is the 5> drawing 13 shows the flow chart of the transaction of purchase by the credit card which can apply the 5th explanatory working example of this invention advantageously. This 5th working example needs to perform two or more communications at the time of purchase. That is, when this 5th explanatory working example is adopted, excessive time to start in order to call a customer or to receive recognition or denial of unsolved approval is unnecessary.

[0047]In advance of starting of the transaction itself, a customer demands and receives the recognition code for using in the transaction after it identified specially (Steps 51 and 52). Only the customer who can generate this recognition code at random, for example, and wants to perform that specific transaction knows. (When [for example.] performing specific purchase), only the representative (namely, person himself/herself) of the customer who communicated will know the recognition code in which the customer was given to instead of. For example, this specific transaction is identified based on the identification codes (storekeeper code 203 of drawing 2, etc.) of that retailer's store, or other identification information of that retailer. Next, when the purchase is started, a customer (or representative who received the notice of the person himself/herself) provides the recognition code received before to the retailer, The retailer provides to the transaction processing center which performs further the approval process automated in the recognition code (Step 53-55). Next, the automated approval system uses the received recognition code by the same method as the case of the 4th explanatory working example shown in drawing 12 for the purpose of recognition of approval of the transaction. Since the bidirectional communication process of Steps 51 and 52 is not generated at the time of purchase (or the place) but only time of remarkable length is performed before the transaction, Various kinds of wide range communication devices can use it for realizing this 5th explanatory working example advantageously (to everything but one way or a bidirectional pager).

[0048]Drawing 14 shows the flow chart of the automated approval process which can be used since Step 55 of the process of drawing 13 is implemented according to the 5th explanatory working example of this invention. As explained above, when a customer's demand to the recognition code of the schedule used to perform a specific transaction (future) is received, an explanatory approval system generates one recognition code, and supplies it to the customer.

This recognition code is supplied to a customer, and also However, that customer's identifier, It is related with the identification code of a retailer's store, next this data For example, the database of a transaction processing center. It is stored in (for example, the database 106 for verification of drawing 1) for the time of next search, at i.e., the that the identified transaction is actually performed time. Therefore, when there is a demand for approval of the given transaction, the explanatory process of drawing 14 searches from a database the recognition code currently supplied before based on the identification code of the customer's identifier, and a retailer's store (Steps 61 and 62). Next, after it is determined that the transaction should be approved, it is compared whether a system matches the recognition code to which the recognition code received together with the approval demand was supplied to the customer before (determination 63). The approval can be recognized when actually matched (Steps 28 and 29).

[0049]According to the 6th explanatory working example of <explanatory working example which is the 6> this invention, a recognition code is provided to the customer, without a customer performing a specific demand. This working example is advantageously applicable to the transaction of purchase by a credit card by the same method as the 5th above-mentioned explanatory working example. Especially the flow chart shown in drawing 13 is correctable by removing Step 51 from there. Next, in order that a customer may use new (automatically) recognition in his own next transaction instead of performing the demand and receipt of a recognition code for using in the transaction after it identified specially. After being each transaction, it receives periodically (for example, every morning). The advantage of this invention for protecting use of the given recognition code from an unjust transaction by, for example, restricting to an independent transaction is acquired, and, moreover, the direct communication to a transaction processing center from a customer becomes unnecessary. Therefore, for example, the pager of one way can be advantageously used like [in the case of the 4th and 5th explanatory working examples]. When the recognition code which matches what was used in the former transaction without matching the recognition code supplied before the last is used, it has a high possibility of being an unauthorized use.

[0050]Many specific working examples of this invention are shown, and although explained, it should be understood that these working examples are only mere examples of many possible specific arrangement which can be devised in application of the principle of this invention. following these principles by people with the usual technique of this field, without separating from the pneuma and the scope of this invention -- many -- and other transformed arrangement is possible. For example, although the above-mentioned working example focused on the transaction of purchase by a credit card, A banking transaction including that the principle of this invention uses the transaction of the call card of a telephone, and PIN, It is applicable to various kinds of wide range transactions including the important access transaction of security, such as a transaction of the computer access based on the transaction of transactions of a stock and goods, and the password of a computer, etc. (however). What is not limited is clear to this for those who equip the technology of this field with an ordinary technique. The principle of this invention is applicable also to many other types of the important access transaction of security, such as a

physical access (namely, entry) transaction containing what used for the purpose of inventory control. For example, the entrance into a room to the important room (for example, treatment room of a hospital) of security, etc. or the ingress to safety facilities, It can lock with the electronic locking system (for example, the access entry of a keypad or a card should put together) electronically linked to the institution of centers, such as the above-mentioned transaction processing center. If it tries to go into the room or institution then, it can be the target of recognition according to the principle of this invention.
[0051]Although the above-mentioned working example focused on the communication which goes mainly via the paging device (for example, one way or a bidirectional pager) of radio, It is clear for the person proficient in the technology of this field that many of other communication mechanisms can be used in addition to it instead of the paging device of radio. As these mechanisms, there are a cellular phone, the conventional wire telephone, a personal computer, etc., for example.

TECHNICAL FIELD

[Field of the Invention]this invention -- approval of a transaction, and the system of warning -- and [especially]. It is related with the method and equipment for obtaining approval from an interested party to an undecided transaction, in order to warn to an interested party about the transaction completed recently using the communications system.

PRIOR ART

[Description of the Prior Art]The identification number of the credit card assigned to the customer of the credit card, For example, when joining financial service and settling purchase in a store, in various kinds of situations when purchasing by telephone, it is shown by mail or E-mail (E-mail) to the person from whom many differed. Many of people with an opportunity to access a customer's credit card number often have a case where a deceitful act is induced. However, the advantage using a credit card is quite large. One of the advantages of using a credit card is it not being necessary to walk around with cash or, and not writing a check. The purchase by a credit card is advantageous also to a retailer as compared with the payment according to a check for example. Regardless of when a customer transfers to the account of the credit card, it is because the purveyor of service of a credit card ensures timely payment to a retailer.

TECHNICAL PROBLEM

[Problem to be solved by the invention]However, a credit card or a credit card number is stolen in many cases, and a credit card number is used without the safe mechanism for checking the customer's identity by a telephone top or mail in many cases.

[0004]There is a problem of the same security as the case of a credit card also in the number of a telephone call card. These numbers are taken out to voice, and are read, or are inputted through a touch-tone keypad in many cases, have the opportunity for others to record it (electronically or only seeing by the eye), in that case, and can use the number unjustly after that. Another cause of an unauthorized use which often exists is a case where that the customer performed the purchase or the having telephoned are denied, after a customer uses a credit card or a telephone call card formally. Therefore, it may be insufficient just to manage access to the number of the credit card or a telephone call card. Even access to the high database of the security by a computer, It is another example of the transaction depending on a customer's identification information (namely, password) which is known by the other company through a lawful or illegal channel. and allows unjust access to the database.

[0005]In order to automate the process of warning and approval, the advantage of communication and progress in a computer system is not being used for the mechanism of the conventional technology over the processing related to such security. Almost all the techniques tried so far in order to cope with the problem of such security tend to make the complexity of a communications protocol increase substantially. For example, a customer can receive an additional question (it is expected that only the approved party concerned knows the answer to the question), Or (it is secret) it may be required that the information on the addition of a personal identification number (PIN) etc. should be provided as a part of each transaction. To be changed in order that such PIN may maintain security on a routine basis may be demanded. In order that a customer may make easy to use these kinds of services, for example, a credit card, and telephone call cards, a customer's responsibility is restricted and, on the other hand, it is becoming common to make responsibility of a purveyor of service (for example, a credit card company or a telecommunications company) increase. As for an unauthorized use, with it, not being detected until a periodical service report is published is common, and in the end which is a monthly bill issue cycle, after the unauthorized use is carried out also to a misfortune, understanding, after long time passes is common with it.

[0006]Besides the problem of the above-mentioned security, the ordinary financial transaction of a desirable class is related to those to whom the person himself/herself has lodged in the representative the power to start and end a routine transaction without [not knowing or] recognizing. However, as for the person himself/herself, when it is identified that it is [non-routine] irregular, it is common to hold the right for being warned about such a transaction or recognizing depending on the case. For example, approval can be required when it is over the threshold parameter (the person himself/herself can define it beforehand) of a certain kind in relation to the transaction.

[0007]The mechanism by the conventional technology for processing the transaction started by such representative, Since the advantage of the progress in the communication for automating the process of the warning and approval after all and a computer system is not used, the scope of such a transaction is restricted. For example, cardholders, such as a company (parents) which has given employees (young adult) the credit card or the deposits-and-savings cash-drawer card in

order to pay the expense (individual) on work. He imposes the restriction of a certain kind on the use about the card by the holder of a card, and, usually is trying to prevent abuse and superfluous or unjust use. For example, there is upper limit about either of the number of times of the transaction which can be recognized to the sum total of an amount of money chargeable to a commercial credit card as such restriction or the credit card number within the period set beforehand. To the card holder who is puzzled in it in the face of the urgent situation, these restrictions have a case where access to a credit will be refused also in irony, when a credit is the required. Clearly, this lodges power in an employee or a young adult, and is contrary to the purpose of things. However, since the owner of a card has financial responsibility ultimately to the expense charged to those credit cards, the surveillance of use of those credit cards by the owner of a card is required too. This problem is important especially when sensing resistance for the storekeeper who worries that legal qualification for minors to complete a card transaction may be lacked considering it as the means of the payment from minors, and receiving a credit card or a deposits-and-savings cash-drawer card. For this reason, another special problem of conventional technology is that the mechanism of the flexible restriction for restricting that the person himself/herself supervises and/or recognizes use of the card by the card holder to the transaction of the business which is not routine-like is missing.

MEANS

[Means for solving problem]As opposed to the customer (for example, the holder of an account or its person himself/herself) of each [problem / aforementioned], the person's customer identifier (for example, -- carrying out a credit / deposits-and-savings cash drawer / telephone call appearance -- the number of a card --) It cannot be reported that PIN, a password, etc. are being used in the transaction to the specific purpose promptly and efficiently, And since it could not answer to it in order that the customer might recognize or deny the use, generating as a result has been recognized. Then, how to have automated according to a certain explanatory working example of this invention for recognizing a transaction is provided. In it, a customer is notified about unsolved approval, and after that, only when a customer recognizes, the transaction answers it and is approved. According to other explanatory working examples, based on the profile which is specified by the person himself/herself and which was memorized beforehand, this invention. The method and system which the person himself/herself has attention automatically called to the transaction of representative starting consider that is atypical, or can be pressed for approval are provided.

[0009]The approval demand of a transaction is received according to an explanatory working example, The determination of whether to approve a transaction based on a customer's identifier should do the demand including a customer's identifier in it, When the decision is made so that the transaction may be approved, unsolved approval is notified to the customer --; -- recognition of saying [that the transaction should actually be approved] is returned by the customer, and; and its transaction answer approval of the customer, and are approved.

[0010]One method for the communication for receiving such recognition for approving from the determination and the customer for approving the transaction is explanatorily provided by the conventional bidirectional pager. For example, when a customer's identifier is used, a customer can always be told about the database of the computer by which the task to which a transaction is approved is imposed by a pager. The information on relation can be displayed on the alphanumeric character (or number) display of that pager together with this notice. The customer can answer by recognizing or denying the unsolved approval then (going via a bidirectional pager).

[0011]According to one mode of this invention, the exception condition which carries out the trigger of the evocation of cautions to a customer or the process of approval is memorizable in the profile to which it was specified by the customer. This profile associates those exception conditions to individual communication addresses, such as a telephone number to which the pager number "500" of which that customer can be notified, or the prefix of "700" was attached. In the case of the transaction of the card of a credit / deposits-and-savings cash drawer, and a telephone call, an exception condition for example, When there is a demand to the credit amount of money (or number of times of a transaction) exceeding the threshold parameter beforehand imposed by the owner of the card to use of the card, Or it may generate by being against other conditions beforehand defined by the owner of the card to use of the card. According to the principle of this invention, the owner of a card by transmitting recognition / disapprobatory message to the publisher of a card as a part of verification process of a card, It can be chosen whether charge of the expense to the card number is approved / denied, or the warning message is received simply.

[0012]It was shown to the storekeeper by the minors who claim that a storekeeper is a substitute of parents or a guardian according to other modes of this invention, The approval of the parents or a guardian can be required from the transaction of a deposits-and-savings cash drawer / credit cards, such as a smart card in which the amount of money is memorized. in that case, a card number -- or -- instead, the profile of the parents or the guardian who identifies the communication address to the parents or guardian can be searched, using what becoming as a search key. The transaction is recognized only when an approval message is received from the parents or a guardian.

[0013]

[Mode for carrying out the invention]

Although the principle of <outline> this invention is applicable to many fields, the explanatory working example described in detail in this focuses on the transaction of purchase by the credit card or a deposits-and-savings cash-drawer card. In these working examples, he may be a customer of the publisher of a credit card or a deposits-and-savings cash-drawer card, Also when that is not right, a certain card holder is a credit card or a deposits-and-savings cash-drawer card (). Or it directs to charge the amount of money of the purchase directly to the account of charging purchase to the account of the credit card given using the credit card number, or the given deposits-and-savings cash-drawer card to a retailer (a product or the donor of service). The

number of the credit card or a deposits-and-savings cash-drawer card serves as a customer's identification information to the credit card purveyor of service (for example, publisher of the credit card).

[0014]Drawing 1 shows the communications system arranged according to the explanatory working example of this invention of a certain kind, in order to realize the principle. The communications system of drawing 1 contains the communication network 102, the database 106 for verification, and the network 111 of the paging system. The communication network 102 contains the communication exchange of one which relays the information received from the card-to-tape machine 101 to the database 106 for verification and which is arranged like (going via the circuit 130-1 - 130-N), or a series by which interconnection was carried out. When saying in detail and a credit card is presented to a storekeeper, since [which pays and charges a frame] the holder of the credit card was related with the transaction, A storekeeper makes the credit card slide in the card-to-tape machine 101, for example, reads a credit card number in the magnetic stripe on the back of the credit card. The automatic dialing unit contained in the card-to-tape machine 101 dials the telephone number related with the database 106 of the publisher of the card, and the card number is verified. In particular, the card-to-tape machine 101 transmits the verification request message explanatorily shown in drawing 2 to the database 106 for verification.

[0015]Similarly, when a card holder wants to use deposits-and-savings cash-drawer cards, such as a card of an automatic money accounts machine (ATM), as a means of the payment for a commercial transaction, a storekeeper inputs a special code into the card-to-tape machine 101, and starts the process of warning and recognition. Then, the card-to-tape machine 101 reads the number of a deposits-and-savings cash-drawer card in the magnetic stripe in the rear face of the deposits-and-savings cash-drawer card, for example, before reminding a card holder of a secret code (for example, PIN). Next, the card-to-tape machine 101 transmits the verification request message shown in drawing 2 to the database 101 for verification.

[0016]The message shown in drawing 2 includes the card number 201, the amount of money 202 for a demand of a credit card, a storekeeper's code 203, and the verification demand 204. When the card number 201 is a number of a deposits-and-savings cash-drawer card, it also contains PIN inputted by the card holder. A storekeeper's code 203 is the field which identifies the enterprise type with which the message connected with the transaction is transmitted. The demanded credit amount of money 202 is usually inputted by the storekeeper, and after being read in the magnetic stripe which has the number 201 of a telephone call card in the rear face of the card, the storekeeper's code 203 is added with the card-to-tape machine 101. The verification demand field 204 memorizes the code inputted by the storekeeper, in order to receive the recognition from the party concerned approved in order to give the recognition over the transaction of a deposits-and-savings cash-drawer card. When card holders are minors, for example by requiring the recognition from minors' parents or guardian (namely, party concerned with authority), Not repealing is guaranteed by minors later on the antecedent basis that the publisher of a storekeeper and a deposits-and-savings cash-drawer card lacks the legal

qualification for the minor causing such a transaction.
[0017]If a verification request message is received, the database 106 for verification will perform operation of a table look-up for the purpose of searching the profile related with the card number using the card number 201 as a search key. When the card is a smart card in which the value was memorized when card holders are minors and, the profile of drawing 3 can be searched using the information near the passphrase or it which was provided by the minor as a search key.
[0018]The database 106 for verification is the database facility by which central centralization of the processor control was carried out, and it is a repository of record or a profile to the number of all the credit / deposits-and-savings cash-drawer cards which were assigned by the card issuing person to the customer. The database 106 for verification is designed in order to approve the transaction charged to the card number memorized in it. Such approval can be performed based on the parameter of the beforehand defined lot contained in the profile related with the card number. When the searched profile does not include the demand for warning or recognition, verification of the card number can be performed by the conventional method. When the profile may be demanding communication with one or the party concerned with a non-call beyond it, The database 106 for verification dials the telephone number searched from the profile related with the card number using the automatic dialing unit (ADU) 110-1 - 110N.
[0019]The table relevant to the change and recognition of a threshold parameter over a credit card number is shown in drawing 3. Each record in the table of drawing 3 is a profile to a credit card number used in order to determine the method by which the transaction charged to the credit card number is processed. the table of drawing 3 -- field 301; of a card holder's name -- field 302; of a card number -- the flags 303 and 304 of warning and approval being included, respectively, and, The trigger group of the field; the threshold field 310 of threshold field 309; of a communication address field 307; no answer credit and a no answer transaction is included. The field 301 of a card holder's name stores a card holder's name related with the specific card number. The field of a card holder's name includes the card holder's family name and the name (as [show / to the 1st and 3rd records]), or the card holder's (as [show / to the 2nd and 4th records]) name (or nickname). The credit card number 302 is used as a search key in the aforementioned table-look-up operation, and searches the profile related with the card number. It is shown that the field 303 of a warning flag should communicate to the owner of a card. However, it is generated only under some conditions. Such communication is needed, when the beforehand defined condition of a certain kind over use of the card may be broken by processing of the transaction or a threshold parameter may exceed for example. The field 304 of an approval flag warns of the transaction of the credit card which breaks the conditions set up beforehand being approved by the owner of a card as a part of card verification process to the publisher of a card. These conditions set up beforehand are conditions which are beforehand chosen by the owner of a card or are imposed by the publisher of a card. The trigger group of the field shown in drawing 3 shows explanatorily various kinds of parameters which will be notified to the owner of a card, when a parameter exceeds the threshold as which a certain kind was determined beforehand. The "condition" field 305 shows limitations with the owner of the card beforehand

selected to use of a credit card. For example, it is shown that I want a cardholder to warn of the 1st record when a cardholder uses many amounts of money from 100 (100) dollars to the credit card number. The 3rd record shows making the owner of a card like to recognize the transaction of more credit cards than 300 dols. The owner of the credit card number related with the 3rd record shows that I want you to warn when the card is used at the setting-out place of the business related with a specific storekeeper's code in contrast with this. The publisher of a card assigns a storekeeper code which is different to the setting-out place of the business of Bar, a hotel, a liquor shop, etc., respectively, and the transaction of the credit card in those setting-out places enables it to identify him easily by it.

[0020]As other limitations which the owner of a card can impose, there is the "maximum times of transaction" field 306, for example. This field defines the upper limit about the number of times of a transaction chargeable to a credit card number within the period set beforehand. For example, the 2nd record shows that it is recognized by the owner of the card, when three credit card transactions or more are processed to the credit card number within 24 hours. Such conditions may be effective in, for example, detecting the unauthorized use of the stolen credit card. When the threshold of the number of times of a transaction is used as a parameter for processing the transaction of a credit card, whenever a credit card transaction is processed, the transaction counter field 307 is incremented only 1. The transaction counter field 307 is reset by "0" after the period (for example, 24 hours) set beforehand passes. although many other limitations in the usual technology may be included by the owner of a card, or the publisher of a card into the profile of drawing 3, in order to explain simply, in drawing 3, only the restriction /of the number of times or restriction of the necessity for approval is shown.

[0021]When the owner of a card is notified of the credit card transaction being against conditions, the address or telephone number of an E-mail which can be sent to the cardholder using the field 308 of a communication address can always be identified. As for the field of this communication address, it is preferred to store the page number related with the communication carrier which provides paging service in the nationwide base for connecting. For example, it is a case of the owner of the card related with the 1st and 4th records. Like the cardholder instead related with the 2nd and 3rd records shown in drawing 3, the individual telephone number to which the prefix number of "500" or "700" was attached, for example can be used as a connection number to a cardholder. The address of an E-mail can be used as other alternative examples. The address to which it can send the usual E-mail in various kinds of explanatory working examples, Or the electronic address used for electronic signaling of other forms, For example, it can be considered as either of the addresses to the direct message or the interactive electronic bidirectional communication mechanism (for example, a "chat" or a program of a "talk") which communicates to the computer screen of the user who logs on.

[0022]In the profile of drawing 3, the threshold field 309 of a no answer credit and the threshold field 310 of the no answer transaction are also included. Those fields identify the maximum amount of money of the credit which can be recognized when the owner of a card cannot be contacted with the communications system of drawing 1, and the maximum times of a

transaction permitted, respectively. When the owner of a card cannot be contacted and you do not want to give approval of a transaction, those fields are set as 0.

[0023]When the cost related with the commercial transaction is charged not to a credit card but to a deposits-and-savings cash-drawer card, only the field 301 of a cardholder's name, the field 302 of a card number, and especially the field 308 of a communication address have relation. It is because the transaction of the business is not completed when an approval demand is started by the storekeeper and the owner of the deposits-and-savings cash-drawer card cannot be contacted.

[0024]When a transaction request message as returned to drawing 1 and shown in drawing 2 is received by the database 106 for verification, the latter, a) the information included in the message, and b -- using the searched profile which is related with the card number in the message, It is determined [whether at least one of the conditions beforehand imposed by the cardholder was broken, and] how it is (or was the threshold which the owner of the card defined beforehand exceeded?). When it is against conditions, the database 106 for verification formats the approval demand /which fetches the communication address of the owner of a credit card, and other arbitrary suitable information, and is transmitted to the owner of a card, or a warning message. One of such the messages is shown in drawing 4. This shows the field 403 as which one entry in the table shown the field 401 of a card holder's name, the field 402 of a display, and in drawing 5 is filled in. The name included in the profile searched from the database 106 for verification is written down in the field of a card holder's name. The field 402 is a display field which always includes two words "credit card." One of the entries in the table of drawing 5 is entered in the field 403.

[0025]The table of drawing 5 shows the three separate entries 501, 502, and 503 showing the section where three different messages differ. Each entry mainly comprises specific conditions which violation generated or display information filled in based on the exceeded specific threshold, and the one field. For example, if the amount of money for a demand of the credit to the transaction is over the limit of charge with the beforehand selected owner of the card, a difference with the amount of money of the credit required as the greatest charge amount will be written down in the field 505. If similarly the maximum times of the transaction per day which the cardholder had chosen beforehand by verification of the card number to a transaction will be exceeded, the contents of the counter field of the transaction will be moved to the field 506. If it is going to charge the amount disbursed relevant to the purchase of the item from the setting-out place of the business which similarly is related with the code of the storekeeper by whom the holder of the card was forbidden to a credit card number, The code is changed into one of the entries of the type of the setting-out place shown in the table of drawing 6. The table correlates each storekeeper's code with the setting-out place of business specific type. For example, the virtual storekeeper code 1234 is related with the store of a liquor shop, and, on the other hand, the map of the hypothetical storekeeper code 4567 is carried out to a hotel and a motel. Thus, once the map of the storekeeper code is carried out to the entry of the type of a commercial setting-out place, the entry will be simply copied to the field 507 of drawing 5.

[0026]By entering one of the entries in drawing 5 in the field 403 of drawing 4, the perfect message for the transmission to the cardholder is created. Then, the database 106 for verification searches the communication address in a profile, and sends the message shown in drawing 4 via the idle automatic dialing unit chosen from ADU110-1 - ADU110-N to a cardholder. The latter is arranged so that the bridge of those calls may be carried out to other communication devices, when the feedback signal from b cardholder who starts the call of a telephone by dialing the telephone number received from the database 106 for a verification is detected. ADU 110-1 - 110-N is designed to end the call when a feedback signal is not received after the period set beforehand.

[0027]A communication address "500" or "700" prefix numbers. (For example, it is shown in the 3rd record of drawing 3) etc., when it is an individual telephone number, The database 106 sends a cardholder's communication address to ADU in an idle state, after transmitting the message shown in drawing 4 to the interactive audio response system (IVRS) 125. When the number dialed from ADU 110-1 is received, the communication network 102 is changed into the telephone number of the plain old telephone service (POTS) which can connect "500" or a "700" prefix telephone number to the cardholder, for example. If ADU 110-1 detects the feedback signal from a cardholder, The bridge of it is carried out to the interactive audio response system (IVRS) 125 which delivers the message of drawing 4 in the form of a sound to the cardholder in which the call is in the place of the set 145 of a telephone via "the wiring 140." If it says in detail, IVRS125 executes a command of the synthetic program from the text currently designed to use an ASCII input like [one] the message shown in drawing 4 to a sound, will carry out [sound / of machine composition] voice expression of "read-aloud" of the ASCII input, and will generate it. It is arranged so that a certain input of whether IVRS125 recognizes a specific transaction or to deny may be given and the owner of a card may be reminded. For example, the owner of a card can urge so that "2" may be inputted on dial putt, when inputting "1" on the dial pad of a telephone for recognizing a transaction or not accepting the transaction. It is the means for answering the touch-tone command from a call person which is contained in [one more] IVRS 125. Especially IVRS 125 is changed into the format which can read the number (DTMF) signal of dual tone multifrequencies received from the owner of the card by machines, such as ASCII which can be recognized with the database 106 for verification. IVRS 125 contains instead the word recognition unit arranged so that the word recorded on digital one like the message in drawing 5 may be outputted, A cardholder is reminded of the specific information changed into the ASCII form for delivering to the database 106 for verification. In order that the individual who has recognized the transaction may guarantee that he is not a swindler but an owner of the card, IVRS 125 may contain the speaker recognition unit which stores the template of the digitized voice message by which the cardholder was recorded beforehand. It is compared with the arbitrary inputs received from the non-call side, and the individual who is going to recognize the transaction proves that he is a "true" cardholder.

[0028]When a communication address is a telephone number of a pager, one of ADU 110-1 - 110-N dials the telephone number of the pager, The call to the telephone number of the pager is

started for the purpose of delivering one of the messages of drawing 4, to the cardholder's pager device 135. The call is forwarded on the demodulator 120-1 - the communication network 102 using one of 120-N, For example, in order to deliver to the paging-system network which may be a nationwide paging service network of a satellite base, the received message is changed into a specific signaling format. Instead, the paging-system network 111 may be a Personal Communication Service (PCS) network or a cellular communication network. The paging-system network 111 contains the base station (not shown in a figure) which receives the dialed number together with the message of drawing 5. Next the base station identifies the specific frequency related with the telephone number of the pager, and in order to deliver to the pager 135, it codes the received message as a series of pulses expressed by the subcarrier modulated on the frequency. The latter changes the pulse into a series of bytes showing the message of drawing 5. Then, the pager 135 generates a loud beep sound and the owner of a card is told about the message having entered. The pager 135 may be a pager of the oscillatory type of which it warns calmly to the owner of the card of the input messsage with the vibration signal which answers reception of a message and is generated instead.

[0029]When the coming message is an alarm signal from the database 106 for verification, the pager 135 may be a paging device which can use the arbitrary business provided with the small screen for receiving the message of drawing 4. However, when the response of recognition/denial is required by the database 106 for verification. As for the pager 106, it may be advantageous that it is a bidirectional paging device like the device which can be obtained from Mobile Telecommunications Technology Inc. in Jackson in Mississippi. In that case, the owner of a card transmits the message of recognition/denial by inputting the beforehand defined code into the bidirectional pager. The beforehand defined code is transmitted to the database 106 for verification via the paging-system network 111 next. The beforehand defined code is received by one of the demodulator 120-1 which restores to the signal related with the received code - 120-N in order to show to the database for verification. The pager 135 may be a pager of one way instead. In this case, when the response of recognition/denial is required by the database for verification, the owner of a card can communicate the message of recognition/denial to the database 106 for verification by other means like use of the telephone of a conventional type.

[0030]In order that <explanatory working example which is the 1> drawing 7 may show the flow chart according to the explanatory working example of this invention of a certain kind and may receive the recognition from the owner of a credit card, Or about the transaction of the credit card started by the cardholder, in order to give the owner of a credit card warning, the outline of the programmed command which is executed by the element from which the communications system of drawing 1 differs is shown. The process shown in drawing 7 is started in Step 701, when the database 106 for verification receives the verification demand to a credit card number. As mentioned above, the demand for recognition may be received in the form of a data message as shown in drawing 2. If a credit card number is received, the database 106 for verification tends to search the profile to the credit card number as a search key using the received credit card number. When there is no profile to a credit card number into the database for verification so that

it may be determined in Step 702, The database for verification returns the message of "the transaction which is not approved" to the card-to-tape machine 101 via the communication network 102. When the database 106 for verification is able to detect the profile to the card number, the profile is analyzed in Step 704 and the type of the demanded credit amount of money or the transaction for example, It determines whether carry out the trigger of the warning or the demand to a recognizing condition. When the trigger of such conditions is not carried out, the database 106 for verification advances a verification process by the usual method. When that is not right, in Step 706, it is confirmed whether when the cardholder meets with the conditions defined beforehand, it is only warned of the database 106 for verification. When that is right, the database 106 for verification searches the cardholder's communication address from the profile, and it is transmitted as the warning message is shown in Step 707 to it. Then, the database 106 for verification advances a verification process by the usual method.

[0031]When the profile searched by the database 106 for verification shows that the owner of the card should recognize the transaction (it needs although demanded by the card holder) of the credit card, The database 106 for verification formulates the demand to the recognition message for transmitting to a cardholder as shown in Step 708 (using the suitable entry in drawing 4 and drawing 5). As explained above, the demand to a recognition message can be delivered in the form of the call of a telephone, or a pager message. The database for verification waits for the response from a cardholder after transmission of a message. In [if it gets to know that a response did not come on the contrary after the time when the database for verification was beforehand defined in Step 709 passes] Step 711 the database 106 for verification, It is evaluated whether the amount of money of the demanded credit is over the threshold of a no answer credit. When the owner of the credit card cannot be contacted depending on the communications system of drawing 1, the threshold of a no answer credit, as explained in front, It is the field in the profile to a card number which is recording the highest amount of money of the credit which can be recognized to the transaction of a credit card. When the amount of money of the demanded credit is over the threshold of a no answer credit so that it may be determined in Step 711, as for the database for verification, a "transaction which is not approved" message is returned to the card-to-tape machine 101. When the amount of money of the demanded credit is not over the threshold of a no answer credit, the contents of the field of the transaction counter in that profile are compared to the threshold of a no answer transaction, and it is determined whether it was over this threshold. When having exceeded, the database 106 for verification returns an invalid card message to the card-to-tape machine 101 as shown in Step 705. When it is not over all thresholds of no answer, the database 106 for verification ends a verification process by the usual method as shown in Step 703.

[0032]If the response from a cardholder is received to within a time [which was defined beforehand] so that the database 106 for verification may be determined in Step 709, the database 106 for verification will evaluate whether the response shows recognition of the transaction by a cardholder. When that is right, the database for verification ends a verification process by the usual method as shown in Step 705. As an option, it may be required that a card

holder should provide the password cord which matches the same code contained in the response received from the cardholder before the transaction is approved. When a disapprobatory response is received from a cardholder, the database 106 "transaction which is not approved" message for verification is returned to the card-to-tape machine 101.

[0033]Drawing 8 is a flow chart which shows the command executed by the element of the explanatory communications system of drawing 1, in order to check the transaction of a deposits-and-savings cash-drawer card according to the 1st explanatory working example of this invention. The process shown in drawing 8 is started in Step 801, when the number and password of a deposits-and-savings cash-drawer card are entered for the database 106 for verification by minors' card holder. In Step 802, the database 106 for verification publishes an inquiry on its own memory storage, in order to know whether a profile can be searched to the received card number. When a profile is not found, the database 106 for verification transmits a "transaction which is not approved" message to the card-to-tape machine 101 as shown in Step 803. If the profile to the card number is searched, the database 106 for verification will create a message using one of the entries of drawing 4, in order to transmit to the owner of the card. Then, it is got to know whether the database 106 for verification waited only for the time of the beforehand defined length, and the response was received from the owner of the card. When the time of the beforehand defined length passes before the response came on the contrary from the cardholder, the database 106 for verification returns a "transaction which is not approved" message to the card-to-tape machine 101 as shown in Step 803. If the response which shows the approval of the cardholder about the transaction is received from a cardholder so that it may be determined in Step 806, the database 106 for verification will advance the process for verification by the usual method as shown in Step 807. When the owner of a card transmits the message which does not recognize the transaction of the card for deposits-and-savings cash drawers, the database 106 for verification transmits a "transaction which is not approved" message to the card issuing person 101 as shown in Step 803.

[0034]Approval of a transaction needs to be recognized by the two or more parties concerned in other explanatory working examples of this invention. For example, the amount of charge money is an account of a company, and when the amount of money of the charge is over a certain threshold defined beforehand, it may be required that the two approved parties concerned (for example, executive of a company) should recognize the transaction. The check of the company where this exceeds a certain kind of amount of money (for example, 1,000 dols), for example resembles the ordinary conditions of not being effective, if there is no approved signature of two persons. When the transaction is related to the expense of the medication in a hospital similarly (refer to following), it may be required that both the patient's doctors and pharmacists of a hospital should recognize the therapy. It is corrected in order to know whether all the parties concerned required in order that Step 806 of drawing 8 may recognize the transaction in these cases performed the recognition.

[0035]<Explanatory working example which is the 2> drawing 9 shows the flow chart of the purchase transaction of the credit card which can apply advantageously the explanatory working

example of this invention of a certain kind. The transaction is started by the card holder (namely, customer) who directs to charge purchase to the amount of money of the given credit card to a retailer (Step 11). As for this command, it is common to take the form where a credit card or a credit card number is shown to a retailer. This transaction may be generated in real time in the state where there are that customer and retailer together, while the customer is waiting. In this case, it is clearly important that that approval process is completed timely. It is because the related party concerned can progress to other actions after waiting for the approval. (For example, the retailer may be waiting in order to hand an article to a customer or to provide service.) It follows and, as for affirmation or denial of approval by the communication and the customer to a customer, it is desirable to be carried out as promptly as possible. It is preferred to this type of the principle of this invention of application to use a bidirectional pager for this Reason.

[0036]In alternative application, a customer is the person himself/herself itself or may have pointed to the retailer (or a retailer's representative) via a certain communication mechanism (for example, a telephone, mail, a facsimile, or an E-mail) at the time before the start of the transaction. Such directions may cover a series of purchase generated over the instant momentary purchase, a future purchase (for example, when an article or service cannot immediately be used), or a fixed period. In these cases at which the customer and the retailer are not present, before the party concerned progresses to other actions, usually there is almost no necessity that the approval is completed. That is, the process of the approval may be allowed to be ended over comparatively long time, such as several hours or a day, in these cases. Therefore, in these cases, the communication mechanism which is not real-time can be used out of else [, such as physical mail,] in the usual telephone, E-mail, or a certain situation.

[0037]Also in which case, a retailer's ordinary response to such directions, A specific customer (with a credit card number) it identifies -- having -- it is telling the transaction processing center (or network of such a center) related with the purveyor of service of a credit card about wishing to purchase for the article of a specific price, or service. Thus, a retailer demands the approval to the charge from a transaction processing center (Step 12). This demand is usually started by making that credit card slide into the automated card-to-tape machine (it is (like the card-to-tape machine 101 of drawing 1)). A card-to-tape machine reads the magnetic stripe on the credit card, dials it to a transaction processing center, transmits the information on relation, and receives an authorization code or disapprobatory either in the response from there. The information transmitted to a transaction processing center usually A credit card number, The identification code (for example, respectively the card number 201 in drawing 2, the demanded credit amount of money 202, and a storekeeper's code 203) of the amount of money of performed purchase and the retailer's store is included. Next, a retailer waits for the approval from the transaction processing center in which what the charge is recognized for by the purveyor of service of a credit card (that is, guaranteed) is shown. As for this approval, it is common to be sent to a retailer in the form of the authorization code which identifies that transaction, and it can use in order to compare that that approval process followed the retailer appropriately by it. On the other

hand, one of the disapprobatory ordinary Reasons is that the balance of the customer's account exceeded the limit of the credit which is related with the customer's account and which was defined beforehand (or thing for which it will be exceeded when given purchase is approved). It is a case where receipt (or explicit disapprobatory receipt) of suitable recognition is missing by the customer by whom another disapprobatory Reason is charged by the account according to the explanatory working example of this invention of a certain kind.

[0038]In a transaction processing center, the process of approval, It performs automatically by the system of the computer base which especially contains in the inside the database (for example, database 106 for verification of drawing 1) include the account information to the member of each credit card (Step 13). That is, determination of whether such a system approves the transaction or to deny is performed automatically, and a help's intervention is usually unnecessary in the transaction processing center. As the transaction is ordinarily shown by by appearing in the form of an authorization code on the display of a retailer's card-to-tape machine. When approved (determination 14), approval that a retailer accepts charge of as opposed to the purchase in the publisher of a credit card by it is obtained. Therefore, the charge is accepted and the transaction is ended (Step 15). On the other hand, when the transaction is denied by the transaction processing center (shown by when a denial code usually appears on the display of a card-to-tape machine), a retailer refuses the charge and the transaction is ended (Step 16).

[0039]Drawing 10 shows the flow chart of the automated approval process which can be used in order to carry out Step 13 of the process of drawing 9 according to the 2nd explanatory working example of this invention. The process of drawing 10 answers each demand by which it was received for approval of a transaction, and it is performed as shown to the figure by the computer systems in a transaction processing center. the received approval demand (it is usually like the card-to-tape machine 101 of drawing 1 --) it transmits from the automated card-to-tape machine at a retailer's place -- having -- a customer's identifier (namely, credit card number) is included especially -- and -- for example, the identification code of the amount of money of shown purchase and the retailer's store can also be included (Step 20). Based on a customer's identifier. a database (it is (like the database 106 for verification of drawing 1)) receives an inquiry, in order to know whether the transaction should be approved (Steps 21 and 22). For example, the database can include the limit information on a credit which shows that it is not allowed to exceed the limit of the credit in which the balance of an account and the balance of the customer's account were given. In such a case, it is determined that the system should not approve the transaction when the sum total of the balance of the account and the amount of money of purchase which should be approved is over the limit of the credit. It is invalid or it is clear that the credit card's (things are understood) stolen it must not be approved.

[0040]When it is determined from analysis of Step 22 that the purchase must not be approved for some Reasons (determination 23), a system formats a denial code (Step 24). On the other hand, when there is no base for denying the transaction, a system makes profitably like approval (it is provisional) recognized by the customer according to the principle of this invention. Especially, and according to the 2nd explanatory working example, the system calls the customer

automatically (using the pager 135 of drawing 1), and supplies the pertinent information about the purchase (Step 25). For example, the transaction which a system supplies a retailer's identity /or the amount of money of the purchase to a customer, and is asked for approval is what the person is actually performing now. Or it enables it to check more correctly that the transaction tends to be performed by the representative and the person himself/herself (namely, customer) recognizes about it instead. The customer's pager number (namely, telephone number used in order to communicate with the pager) can be related with the customer's account as it can store, for example in a database and is shown in drawing 3.

[0041]When the customer is called, the system of the 2nd explanatory working example waits for the recognition from a customer provided together with the customer's bidirectional pager being used (Step 26). When a customer answers by suitable recognition (determination 27), a system generates, formats and memorizes the authorization code which enables it to end the transaction. On the other hand, when a customer does not recognize the transaction, a system formats a denial code (Step 24). (for example, when the response from a customer is not received within the time set beforehand) After either a denial code or an authorization code is formatted, it is sent to the retailer (namely, card-to-tape machine 101 of drawing 1) who submitted the approval demand from the first (Step 29).

[0042]<Explanatory working example which is the 3> drawing 11 shows the flow chart of the automated approval process which can be used to Step 13 of implementation in the process of drawing 1 according to the 3rd explanatory working example of this invention. As shown in this figure, the explanatory process of drawing 11 is the same as the explanatory process shown in drawing 10 except the determination 27 which determines whether recognition was received from the customer being replaced by the determination 30 which determines whether denial was received from the customer. By receiving either the recognition from a customer, or denial, other working examples of this invention can combine what is shown in drawing 10 and drawing 11. In such a case, a default (namely, timeout) standard can be made into either of the assumed denial which was recognized or assumed.

[0043]<Explanatory working example which is the 4> drawing 12 shows the flow chart of the approval process which can be used since Step 13 of the process of drawing 9 is implemented according to the 4th explanatory working example of this invention. This 4th working example can be advantageously adopted, when the customer has only the pager (differing from both directions) of one way. This is because the approval of the customer who should communicate is indirectly performed through a retailer. If it says in detail, the explanatory process of drawing 12 is [that it is under / of the mechanism which the approval of a customer is required and is received / except] the same as the case of the explanatory working example of drawing 10 and drawing 11.

[0044]If the determination 23 determines that that transaction was approved especially, the explanatory system of this 4th working example generates the code for recognition, and provides that code to a customer by its own pager (one way) (Steps 41 and 42). For example, the recognition code supplied is generated at random, in order to prevent from predicting. The

recognition (and for example, to person unjustly using credit card number of customer who does not own that customer's pager, not told) code it is told by this method as for that recognition code that only a customer is can be used in order to recognize that approval indirectly. For example, when the customer is doing some shopping by facing each other in a store, the customer can provide the recognition code currently supplied by the transaction processing center to the retailer. A retailer returns the recognition code to a transaction processing center further. The step of this latter can be performed using the automated card-to-tape machine which has already communicated with the transaction processing center, for example.

[0045]therefore, after the explanatory process of drawing 12 supplies a recognition code to a customer, Step 43 waits for the input of the response containing the recognition code (return) (for example, -- from the automated card-to-tape machine). Next, the recognition code supplied to the given transaction is compared with the received recognition code (determination 44), and the customer checks actually providing suitable recognition of the approval. When the recognition code in which the supplied recognition code was received is matched, a system approves the transaction (Steps 28 and 29). The transaction is denied, when they do not match, or when a system does not receive the recognition code of a response after the passage of time of the length defined beforehand (Steps 24 and 29).

[0046]<Explanatory working example which is the 5> drawing 13 shows the flow chart of the transaction of purchase by the credit card which can apply the 5th explanatory working example of this invention advantageously. This 5th working example needs to perform two or more communications at the time of purchase. That is, when this 5th explanatory working example is adopted, excessive time to start in order to call a customer or to receive recognition or denial of unsolved approval is unnecessary.

[0047]In advance of starting of the transaction itself, a customer demands and receives the recognition code for using in the transaction after it identified specially (Steps 51 and 52). Only the customer who can generate this recognition code at random, for example, and wants to perform that specific transaction knows. (When [for example,] performing specific purchase), only the representative (namely, person himself/herself) of the customer who communicated will know the recognition code in which the customer was given to instead of. For example, this specific transaction is identified based on the identification codes (storekeeper code 203 of drawing 2, etc.) of that retailer's store, or other identification information of that retailer. Next, when the purchase is started, a customer (or representative who received the notice of the person himself/herself) provides the recognition code received before to the retailer, The retailer provides to the transaction processing center which performs further the approval process automated in the recognition code (Step 53-55). Next, the automated approval system uses the received recognition code by the same method as the case of the 4th explanatory working example shown in drawing 12 for the purpose of recognition of approval of the transaction. Since the bidirectional communication process of Steps 51 and 52 is not generated at the time of purchase (or the place) but only time of remarkable length is performed before the transaction, Various kinds of wide range communication devices can use it for realizing this 5th explanatory

working example advantageously (to everything but one way or a bidirectional pager).
[0048]Drawing 14 shows the flow chart of the automated approval process which can be used since Step 55 of the process of drawing 13 is implemented according to the 5th explanatory working example of this invention. As explained above, when a customer's demand to the recognition code of the schedule used to perform a specific transaction (future) is received, an explanatory approval system generates one recognition code, and supplies it to the customer. This recognition code is supplied to a customer, and also However, that customer's identifier, It is related with the identification code of a retailer's store, next this data For example, the database of a transaction processing center. It is stored in (for example, the database 106 for verification of drawing 1) for the time of next search, at i.e., the that the identified transaction is actually performed time. Therefore, when there is a demand for approval of the given transaction, the explanatory process of drawing 14 searches from a database the recognition code currently supplied before based on the identification code of the customer's identifier, and a retailer's store (Steps 61 and 62). Next, after it is determined that the transaction should be approved, it is compared whether a system matches the recognition code to which the recognition code received together with the approval demand was supplied to the customer before (determination 63). The approval can be recognized when actually matched (Steps 28 and 29).
[0049]According to the 6th explanatory working example of <explanatory working example which is the 6> this invention, a recognition code is provided to the customer, without a customer performing a specific demand. This working example is advantageously applicable to the transaction of purchase by a credit card by the same method as the 5th above-mentioned explanatory working example. Especially the flow chart shown in drawing 13 is correctable by removing Step 51 from there. Next, in order that a customer may use new (automatically) recognition in his own next transaction instead of performing the demand and receipt of a recognition code for using in the transaction after it identified specially, After being each transaction, it receives periodically (for example, every morning). The advantage of this invention for protecting use of the given recognition code from an unjust transaction by, for example, restricting to an independent transaction is acquired, and, moreover, the direct communication to a transaction processing center from a customer becomes unnecessary. Therefore, for example, the pager of one way can be advantageously used like [in the case of the 4th and 5th explanatory working examples]. When the recognition code which matches what was used in the former transaction without matching the recognition code supplied before the last is used, it has a high possibility of being an unauthorized use.
[0050]Many specific working examples of this invention are shown, and although explained, it should be understood that these working examples are only mere examples of many possible specific arrangement which can be devised in application of the principle of this invention. following these principles by people with the usual technique of this field, without separating from the pneuma and the scope of this invention -- many -- and other transformed arrangement is possible. For example, although the above-mentioned working example focused on the transaction of purchase by a credit card, A banking transaction including that the principle of this

invention uses the transaction of the call card of a telephone, and PIN, It is applicable to various kinds of wide range transactions including the important access transaction of security, such as a transaction of the computer access based on the transaction of transactions of a stock and goods, and the password of a computer. etc. (however). What is not limited is clear to this for those who equip the technology of this field with an ordinary technique. The principle of this invention is applicable also to many other types of the important access transaction of security, such as a physical access (namely, entry) transaction containing what used for the purpose of inventory control. For example, the entrance into a room to the important room (for example, treatment room of a hospital) of security, etc. or the ingress to safety facilities, It can lock with the electronic locking system (for example, the access entry of a keypad or a card should put together) electronically linked to the institution of centers, such as the above-mentioned transaction processing center. If it tries to go into the room or institution then, it can be the target of recognition according to the principle of this invention.

[0051]Although the above-mentioned working example focused on the communication which goes mainly via the paging device (for example, one way or a bidirectional pager) of radio, It is clear for the person proficient in the technology of this field that many of other communication mechanisms can be used in addition to it instead of the paging device of radio. As these mechanisms, there are a cellular phone, the conventional wire telephone, a personal computer, etc., for example.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a figure which the owner of a card approves [figure] to the transaction charged by the card holder to a card, or can have attention called and in which showing the remote communications system arranged according to this invention.

[Drawing 2]It is the figure showing the typical message transmitted to a card issuing person's database for verification with the automatic dialing unit at a storekeeper's place.

[Drawing 3]It is the figure showing the explanatory table which relates the threshold parameter of warning with a card number.

[Drawing 4]It is the figure showing the explanatory general message transmitted to the communication apparatus of the owner of a card with the automatic dialing unit at a storekeeper's place.

[Drawing 5]It is the figure showing the specific typical message which can transmit to a cardholder's communication apparatus with the verification system of a card.

[Drawing 6]It is a figure showing the table which correlates a storekeeper's code with the type of a commercial setting-out place.

[Drawing 7]In order to receive the recognition over the transaction of the credit card started by the holder of the card according to a certain explanatory working example of this invention, Or in order to call the owner's of a credit card attention, it is the figure showing the flow chart

explaining the programmed explanatory command which is executed by the element from which the communications system of drawing 1 differs.

[Drawing 8]In order to receive the recognition from the parents or a guardian about the transaction of the deposits-and-savings cash-drawer card of minor starting according to the 1st explanatory working example of this invention, It is a figure showing the flow chart of the programmed explanatory command which is executed with various kinds of components of the communications system of drawing 1.

[Drawing 9]The explanatory working example of this invention of a certain kind is the figure showing the flow chart of the transaction of purchase by an advantageously applicable credit card.

[Drawing 10]It is the figure showing the flow chart of the approval process according to the 2nd explanatory working example of this invention.

[Drawing 11]It is the figure showing the flow chart of the approval process according to the 3rd explanatory working example of this invention.

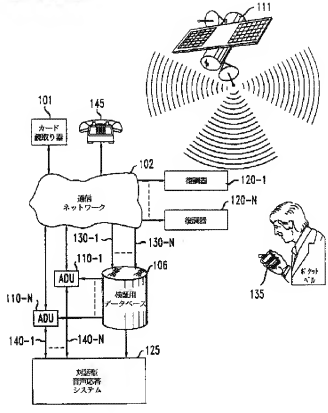
[Drawing 12]It is the figure showing the flow chart of the approval process according to the 4th explanatory working example of this invention.

[Drawing 13]It is the figure showing the flow chart of the transaction of purchase by a credit card which can apply the 5th working example of this invention advantageously.

[Drawing 14]It is the figure showing the flow chart of the approval process according to the 5th explanatory working example of this invention.

DRAWINGS

[Drawing 1]



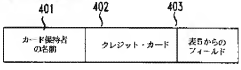
[Drawing 2]

[Drawing 3]

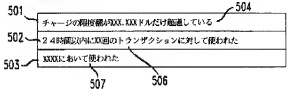
レコード番号	カード保持者の名前	カード番号	警告／拒絶		トリガ			通信アドレス	加算型クレジット・しきい値	減算型トリガ・クレジットのしきい値
			警告フラグ	拒絶フラグ	条件	一日当たりのトリガ・クレジットの最大回数	トリガ・クレジット・カウンタ			
1	ジョン・スミス	503 456 7890 1234	YES	NO	>100	—	—	eアドレス番号 201 432 1098	—	—
2	ロブ	504 567 8901 1234	YES	YES	>300	>3	3	電話番号 900 555 6789	350	>4
3	ベドゥー・エンダース	506 789 0012 3456	YES	NO	MC=1234 MC=4567	>4	2	電話番号 500 555 1234	—	—
4	ジミー	507 890 1123 4567	YES	YES	>150	--	1	eアドレス番号 908 901 2345	280	>2
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
N	ボブ	NNN XXX XXXX XXXX	YES	YES	>NNN	—	X	eアドレス番号 NNN XXX XXXX	XXX	>N

311 301 302 303 304 305 306 307 308 309 310

[Drawing 4]



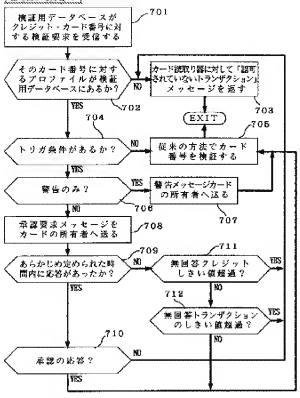
[Drawing 5]



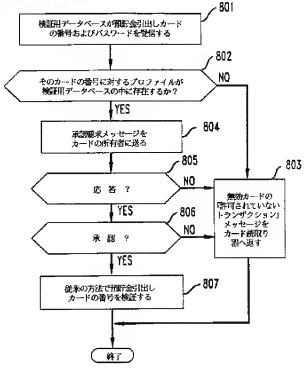
[Drawing 6]

商店主コード	設定場所のタイプ
1234	通信販売店
4567	ホテル
5678	レース・トラック

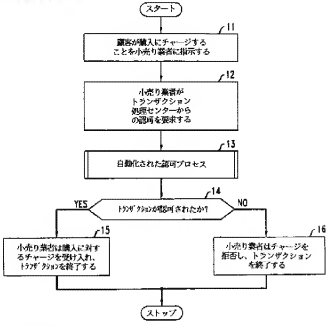
[Drawing 7]



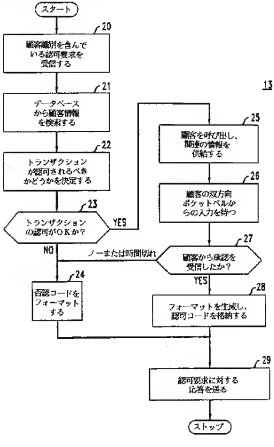
[Drawing 8]



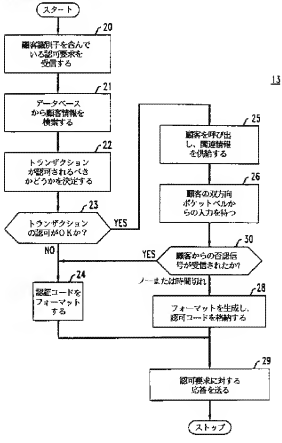
[Drawing 9]



[Drawing 10]



[Drawing 11]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